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ABSTRACT

Based on all factors considered during an independently conducted six month long needs assessment and feasibility study in response to the Indian Health Care Improvement Act, Title VI, the Department of Health, Education, and Welfare reports on the need for an American Indian school of medicine (AISOM). A separate innovative educational institution providing a quality and relevant education leading to an M.D. degree should be developed to turn around the low percentage of Indians in the medical professions. An AISOM, which should meet the accreditation requirements of the AMA/AAMC Liaison Committee on Medical Education as well as specific needs of Indian peoples, is feasible because the current medical education system is inadequate to develop sufficient American Indian medical professionals and because the current status of American Indian health care is below that of the total population. The establishment of an AISOM in conjunction with scholarship and precollege/premedical programs would provide a comprehensive and effective strategy to significantly improve physician needs for all Indian peoples. Appendices include the complete report of the independent study group, sources of financing, and operating cost estimates for a medical school. (Author/SB)

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Report to Congress

ED168771

U S DEPARTMENT OF HEALTH,
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REPORT OF THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE ON THE NEED FOR AND FEASIBILITY OF ESTABLISHING AN AMERICAN INDIAN SCHOOL OF MEDICINE, AS REQUIRED BY TITLE VI OF THE INDIAN HEALTH CARE IMPROVEMENT ACT

(PUBLIC LAW 94-437)

RC 011249

August 29, 1977

Since vital statistics aggregated under different demographic groupings are not always comparable, it is important to be aware of the various classifications used in descriptions of American Indians. The American Indian population often has been categorized in three broad demographic groups:

Reservation Indians 4/ - consisting of an estimated 400,000 American Indians who live on areas commonly referred to as Federal reservations. This group relies almost exclusively on Indian Health Service facilities, located on the reservations, for provision of health care services.

Rural Indians - consisting of an estimated 300,000 American Indians who live near (but not on) the Federal reservations and in other rural areas. They also rely on the IHS facilities on the reservations, depending upon the proximity of these facilities.

Urban Indians - consisting of an estimated 300,000 American Indians who live in or near various urban centers.

FOREWORD

The contents of this Report to Congress were derived from several sources. First, a six-month study of the need for, and feasibility of, establishing an American Indian school of medicine provided the basis for the Report. The six-month study, under a competitively awarded contract (Number 231-77-0003) to Cresap, McCormick, and Paget, Inc., from the Health Resources Administration (HRA), was completed August 12, 1977. Consultations held during the conduct of the study with more than 100 individuals from over 50 Indian tribes and organizations contributed important information. Finally, additional suggestions and ideas of Indian participants in the study group prompted the inclusion of supplementary material which was assembled and incorporated into the report by the staff of the Division of Medicine, the Bureau of Health Manpower, HRA, U.S.P.H.S.

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Abstract

This report is in response to the Indian Health Care Improvement Act (P.L. 94-437), Title VI - to determine the need for and feasibility of establishing a school of medicine to train Indians to provide health services to American Indians. Responsibility for carrying out the Title VI Feasibility Study was assigned to the Bureau of Health Manpower, Health Resources Administration, DHEW.

Contents of the report were derived from several sources: a six-month study under a competitively awarded contract with Cresap, McCormick and Paget, Inc.; consultations with individuals from more than 50 Indian tribes and organizations; suggestions and ideas of Indian participants in the ad hoc advisory group that assisted in the design and development of the study; consultation from Indian people throughout the country as a result of briefings on the Indian Health Care Improvement Act.

The primary objectives of the study were three-fold:

- To assess the need for a medical school that would train American Indians to provide health care to Indian people
- Based upon this assessment, to consider the concept of an American Indian school of medicine in conjunction with other complementary approaches to providing adequate medical education opportunities for American Indians
- To present conclusions and recommendations on the feasibility of establishing an American Indian school of medicine.

The report includes a review of the special historical/legal Federal-Indian relationship, and the unique American Indian cultural heritage, as well as an assessment of the health care and medical education needs of American Indians.

Based upon all factors considered, an American Indian School of Medicine (AISOM) is needed. An AISOM can and should meet the accreditation requirements of the AMA/AAMC Liaison Committee on Medical Education. In addition, an AISOM can and should meet specific American Indian requirements to address special needs of Indian peoples.

In summary, an American Indian school of medicine would have a significant positive impact on the goal of expanding medical education opportunities which adequately meet the educational and peer support needs of Indian students as well as fully prepare these students for care provider roles for the Indian people. The establishment of an American Indian school of medicine in conjunction with two other approaches -- scholarship programs and precollege/premedical programs -- would provide a comprehensive and effective strategy to significantly improve physician needs for all Indian peoples.

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RECOMMENDATION OF THE FEASIBILITY STUDY GROUP
CONCERNING THE NEED FOR AND
FEASIBILITY OF ESTABLISHING AN AMERICAN INDIAN SCHOOL OF MEDICINE

The Feasibility Study Group is convinced of the need for and feasibility of a medical school for American Indians. This conviction is predicated on three facts:

First, the current medical education system is inadequate to develop sufficient American Indian medical professionals.

Second, the current status of health care of American Indians is below the status of health care of the total population.

Third, to turn around the low percentage of American Indians in the medical professions, a separate and innovative educational institution should be developed to provide a quality and relevant education leading to an M.D. degree. This is the only way that there will be any effective change. This development must be in concert with a general upgrading of Indian education at all levels.

CHAPTER I

INTRODUCTION

The Legislative Mandate

This report presents the results of a study of the need for, and feasibility of, establishing a medical school to train American Indians to provide health care to American Indians. 1/ The study was mandated by the Congress under Title VI of the Indian Health Care Improvement Act (P.L. 94-437) enacted on September 30, 1976:

> The Secretary, in consultation with Indian tribes and appropriate Indian organizations, shall conduct a study to determine the need for, and the feasibility of, establishing a school of medicine to train Indians to provide health services for Indians. Within one year of the date of the enactment of this Act the Secretary shall complete such study and shall report to the Congress findings and recommendations based on such study.

The Indian Health Care Improvement Act provides an explicit declaration of Federal policy regarding the provision of resources to improve the health status of American Indians:

> The Congress hereby declares that it is the policy of this Nation, in fulfillment of its special responsibility and legal obligations to the American Indian people, to meet the national goal of providing the highest possible health status to Indians and to provide existing Indian health services with all resources necessary to effect that policy.

Federal support of and direct involvement in basic and secondary education programs for American Indians has over a 100-year history. It is only within the last decade that attention has been directed to medical education opportunities for Indians. The Indian Self-Determination and Education Assistance Act (P.L. 93-638), which became law in December 1974, set the stage for the present consideration of an American Indian school of medicine.

Within P.L. 93-638, Title I, which addresses health care issues, authorizes the Department of Health, Education, and Welfare (DHEW), at the request of an Indian tribe, to negotiate contracts with tribal organizations to carry out DHEW health care programs and services. In addition, it authorizes the Public Health Service to assign commissioned medical personnel from the Indian Health Service to the tribal contractor. The Act also authorizes the Indian Health Service to award grants for the planning, development, and operation of health programs. In making these authorizations, the Indian Self-Determination and Education Assistance Act seeks to transfer to American Indian tribes the responsibility for planning and administering their own health programs. Central to the consideration of an American Indian school of medicine is the specification within P.L. 93-638 that the Federal Government provide opportunities to American Indians enabling them "to compete and excel in the life of their choice, and to achieve the measure of self-determination essential to their social and economic well-being."

The study of the need for, and feasibility of establishing a medical school for American Indians, helps fulfill the Nation's commitment to self-determined high standards of health and medical educational opportunities for the American Indian peoples.

Study Approach

The Bureau of Health Manpower (BHM) in the Health Resources Administration was assigned responsibility for the study in a memorandum of November 8, 1976, from the Assistant Secretary for Health. 2/ Within two weeks of this date, the Bureau held its first meeting with an ad hoc Feasibility Study Group (FSG). This Study Group was formed to assure consultation and active participation by American Indians from the very beginning in the planning and conduct of the study. (See Attachment A for membership and work schedule.)

The Feasibility Study Group, with a total membership of 18, was comprised of 14 Indian members and 4 medical educators. The Indian membership of the FSG was derived from the nominations of major Indian organizations and tribes. The medical educators were selected by DHEW staff on the basis of their expertise in planning, developing, and operating medical education programs and for their special concern with programs for American Indians.

The tasks of the FSG, conducted under the chairmanship of an Indian representative, included: (1) review of the study's scope of work and criteria for competitive selection of a contractor; (2) review of contract proposals; (3) assistance in developing the study design; (4) counsel and guidance during the conduct of the study; and (5) independent development of final recommendations for the need, feasibility and characteristics desirable for an American Indian school of medicine. The Feasibility Study Group met six times in full session throughout the development and conduct of the study.

Consultation from Indians was also received in two sessions involving individuals from over 50 organizations and tribes (listed in Attachment B) selected by the National Indian Health Board. 3/ The first session was held to explain the purpose of Title VI, the procedures established by the Bureau of Health Manpower to carry out its responsibility for conduct of the study, and to present the study design for comment and/or suggestions. In the second session, individuals from the same 50 American Indian organizations and tribes (Attachment B) participated in the review of a preliminary draft of the study. Further consultation was received from the Indian people as a result of several national briefings on the entire Indian Health Care Improvement Act, including Title VI.

As noted in the Foreword, under competitive procurement, the contract to conduct the study was awarded to Cresap, McCormick, and Paget (CMP), Inc. The CMP study, which spanned six months, was completed August 12, 1977. Attachment C contains the CMP final report.

Throughout this report, the term "American Indians" refers to all American Indians and Alaskan Natives, including Aleuts and Eskimos.

Study Objectives

The primary objectives of the study were threefold:

- to assess the need for a medical school that will educate and train American Indians for delivery of health care to American Indian people.
- based on this assessment, to consider the concept of an American Indian medical school in conjunction with complementary approaches to provide adequate medical education opportunities to American Indians.
- to present conclusions and recommendations on the feasibility of establishing an American Indian school of medicine.

Data Sources

The study is based primarily on a review of existing data sources 4/, for the most part, those developed by the Indian Health Service, the Association of American Medical Colleges and the Bureau of the Census. In addition, recent literature was reviewed pertaining to American Indians, their needs for health care and their needs for medical education opportunities.

The data underlying analyses of the operating costs for an American Indian school of medicine were drawn from several sources including the Association of American Medical Colleges and four individual medical schools.

The amount of time allotted under Title VI for the conduct of the study did not permit extensive on-site consultations within Indian communities nor, in many instances, direct discussions with more than one individual from each Indian organization interested in the study. Thus, while numerous invitations were extended by various Indian organizations and tribes, the contractor was able to respond to only a few.

Acknowledgments

Bureau of Health Manpower staff expresses deep appreciation for the patience, persistence and valuable contributions of the 18 members of the Feasibility Study Group.

Staff of the Indian Health Service (IHS) were most supportive in providing available data upon request during the conduct of the study. Furthermore, IHS comments and suggestions were of great assistance in the drafting of this report.

The BHM staff wishes to acknowledge, with appreciation, the cooperation of the Association of American Medical Colleges and the medical schools who contributed to the study.

Finally, BHM gives special recognition to the more than 100 Indian participants, drawn nationwide from over 50 Indian organizations and tribes, for their consultation during this study.

CHAPTER 1

FOOTNOTES

1/ The term "American Indians" refers to all American Indians and Alaskan Natives, including Aleuts and Eskimos. This point is reiterated later in the text of Chapter I.

2/ Delegation of authority by the Secretary of Health, Education, and Welfare has been made to the Assistant Secretary for Health for multiple authorities under the Indian Health Care Improvement Act, including:

> "Title VI of P.L. 94-437 (25 U.S.C. 1661) for a feasibility study regarding the establishment of an American Indian School of Medicine and the development of a report based on the study, excluding the authority to submit a report to the Congress." (Federal Register, Vol. 42: No. 134, Page 36038)

3/ The National Indian Health Board is a nonprofit corporation founded in 1972 to evaluate the health needs of American Indians, to undertake education projects to assist American Indians to develop adequate health systems, and to advise governmental and private agencies as to priorities, policies and guidelines for the delivery of health services to American Indians. Under contract (Number 231-77-0005) with the Bureau of Health Manpower, the Board convened two consulting sessions with members of the 50 organizations and tribes.

4/ On numerous occasions Indian participants called attention to the limitations of the existing data, particularly in reference to potential underestimating within the assessment of needs. The Bureau of Health Manpower recognizes these limitations.

CHAPTER II

BACKGROUND

Any assessment of the need for an American Indian school of medicine must take into account the interaction of historical, cultural and demographic factors with the health care system and available medical education opportunities for American Indians. Therefore, this background chapter includes (1) a descriptive profile of the American Indians in terms of demographic characteristics, health status, educational and economic characteristics and cultural characteristics; and (2) a review of the unique Federal-Indian relationship, a history of Federal health policy directed to Indians and a description of present Indian Health Service programs.

Profile of the American Indian Population

The following descriptive profile of American Indians is somewhat limited by data which do not permit a detailed analysis of Indian health and well-being. But in comparing the Indian population with the United States population as a whole, it is possible to highlight the magnitude of problems of Indians.

Demographic Characteristics

There are an estimated 1,027,000 American Indians in the United States, 1/ representing about four-tenths of one percent of the total United States population. They are members of various tribes, bands, pueblos, rancherias and other communities that range in size up to 130,000 persons.

In 1970, the American Indian population at 827,108, showed a 50 percent increase over 1960. 2/ This unusual rate of growth - the U.S. population experienced only a 13 percent growth rate over this period - can be attributed, in part, to increased births and to improved census-taking methods. 3/ Trend data for annual live births of American Indians is presented in Table 1.

Approximately 85 percent of the American Indian population, as recorded by the Bureau of the Census in 1970, was concentrated in 18 of the 50 States, with the greatest concentration - roughly 12 percent each - in three States: Oklahoma, Arizona, and California (Table 2). In addition to the 18 States having more than 10,000 American Indians in the 1970 census count, there were 15 States with counts over 4,000 and 9 States with counts over 2,000. Thus, while there were major concentrations of Indians in several States, there was still a significant nationwide distribution of the Indian population across a majority of the States.

Table 1

Live Births: American Indians, Trend Data

Year	Total Annual Live Births
1940	14,022 a/
1950	15,671 a/
1960	21,114 a/
1970	25,864
1975 b/	27,546

Source: "Vital Statistics of the United States, Vol. I Natality" 1960 and 1970.

a/ Does not include Aleuts and Eskimos.
b/ 1975 data from Natality Statistics Branch, Division of Vital Statistics, National Center for Health Statistics

Table 2

Percent Distribution, American Indian Population, By State, 1970 a/

State	Percentage Of American Indians In The State
Oklahoma	11.9%
Arizona	11.6
California	11.0
New Mexico	8.8
Alaska	6.1
North Carolina	5.4
Washington	4.0
South Dakota	3.9
New York	3.4
Montana	3.3
Minnesota	2.8
Wisconsin	2.3
Texas	2.2
Michigan	2.0
North Dakota	1.7
Oregon	1.6
Illinois	1.4
Utah	1.4
All Other States b/	15.2
Total	100.0%

Source: U.S. Bureau of the Census, 1970 data from "Statistical Abstract of the United States: 1976" (97th edition). Washington, D. C., 1976, p.31.

a/ For all States having more than 10,000 American Indians in the 1970 census count.

b/ There were 15 States with greater than 4,000 American Indians in the 1970 census count. Listed alphabetically, there were: Florida, Idaho, Kansas, Louisiana, Maryland, Massachusetts, Mississippi, Missouri, Nebraska, Nevada, New Jersey, Ohio, Pennsylvania, Virginia and Wyoming. States with a census count greater than 2,000 Indians were: Alabama, Arkansas, Connecticut, Georgia, Indiana, Iowa, Maine, South Carolina, and Tennessee.

The Bureau of Indian Affairs estimates that 543,000 American Indians in 1973 lived on or near Federal reservations in 24 of the States (Table 3). Approximately 65 percent of this population was concentrated in 4 States: Arizona (21 percent), New Mexico (17 percent), Oklahoma (16 percent), and Alaska (11 percent). The remaining 35 percent was distributed across 20 States.

More than 152,000 American Indians resided in 15 metropolitan areas of the U.S.: three in the State of California--Los Angeles, San Francisco/Oakland and San Diego; two in Oklahoma—Oklahoma City and Tulsa; and one metropolitan area in each of 13 other States. The greatest concentration of American Indians in a single metropolitan area was in Los Angeles, with a population of almost 25,000 American Indians. In total, approximately 43,000 Indians were living in three metropolitan areas in California (Table 4).

Two cities in Oklahoma, Tulsa and Oklahoma City, rank second and third in the concentration of American Indians in metropolitan areas, with populations of 15,500 and 13,000.

The population percentages for American Indians and for the United States as a whole are contrasted by age categories in Table 5. The American Indian population has a much higher proportion of infants and children than the total U.S. population.

The 1970 census count of American Indians very probably reflects underestimates of the actual Indian population. This point was emphasized by Indian participants during the conduct of the study.

It is likely, for instance, that the number of Indians under age 20 was undercounted by about 7 percent, and under age 5, by about 15 percent. 5/ This type of possible undercounting further accentuates the observation that the American Indian population is relatively young, having a higher proportion of infants and children than the total U.S. population.

The birth and life span pattern for American Indians differed markedly from that of the total U.S. population. The average age of American Indians was 20.4 years, as compared to 28.1 years for the total U.S. population. This can be explained, in part, by the fact that American Indians had a higher birth rate (by 106 percent) than the total U.S. population, and that they died at a younger age (by 5.8 years) than the total U.S. population.

In the distribution of the American Indian population by sex, the pattern was comparable to that of the total U.S. population. Women represented 50.9 percent of the American Indian population and 51.3 percent of the total U.S. population.

Table 3

Distribution of Estimated American Indian Population Living On or Near Federal Reservations, 1973.

State a/	Number b/	Percent of Total
Arizona	114,178	21.0%
New Mexico	92,963	17.1
Oklahoma c/	85,228	15.7
Alaska d/	61,026	11.2
California e/	37,582	6.9
South Dakota	31,579	5.8
Montana	25,922	4.8
Washington	17,708	3.3
North Dakota	14,881	2.7
Minnesota	11,273	2.1
Wisconsin	7,952	1.5
Utah	7,391	1.4
Idaho	5,105	1.0
North Carolina	4,940	.9
Nevada	4,662	.9
Wyoming	4,538	.8
Mississippi	3,379	.6
Oregon	2,833	.5
Nebraska	2,492	.5
Michigan	2,252	.4
Colorado	1,745	.3
Florida	1,594	.3
Kansas	917	.2
Iowa	575	.1
Louisiana	182	.03
Total	542,897	100.0%

Source: U.S. Department of the Interior, Bureau of Indian Affairs. "Estimates of Resident Indian Population by State and Reservation: March 1973." August 1976, p. 2.

a/ There are State reservations in several States, for example, Maine, Virginia, New York, and Florida. Approximately 10,000 American Indians in New York State live on such reservations. (For source, refer to footnote 4/ at end of Chapter II.)

b/ "Tribal members may live anywhere and still be members of the tribe. It appears that the figures being reported for some reservations include some members living away, and thus correspond more to tribal membership than to resident Indians..." (excerpted from the same source noted for Table 3).

c/ Because of special Indian laws in the State of Oklahoma, there are no reservations, insofar as the term generally applies to Indian lands in other parts of the U.S.

d/ Includes all natives: Aleuts, Eskimos and Indians.

e/ Approximately 7,500 reside on or near reservations in Sacramento, CA; in addition, approximately 30,000 Indians residing in the rural areas of California have claim judgments regarding clarification of status

Table 4

Rank Order Of American Indian Population, By Metropolitan Area, 1970. a/

Metropolitan Area	Number
Los Angeles	24,510
Tulsa	15,520
Oklahoma City	13,030
San Francisco/Oakland	12,210
New York	12,160
Phoenix	11,160
Minneapolis	9,860
Seattle	9,500
Chicago	9,000
Tucson	8,840
San Diego	5,880
Albuquerque	5,840
Detroit	5,680
Dallas	5,020
Denver	4,350
Total	152,560

Source: Bureau of the Census, 1970 data.

a/ For all metropolitan areas having more than 4,300 American Indians in the 1970 census count.

Table 5

Percent of Population, By Age, 1970

Age Category	Total U.S. Population	American Indian Population
Under 5 years	8%	12%
5-9	10	13
10-14	10	13
15-24	17	20
25-39	18	18
40-59	22	16
60 and Over	14	8

Source: Bureau of the Census, 1970 data.

Health Status 6/

In 1955, the Indian Health Service assumed the responsibility for providing comprehensive health care to American Indians. Under IHS responsibility, significant progress has been made in the reduction of disease in the Indian population. Within the Indian Health Care Improvement Act, Congress, while noting this progress in a Statement of Findings, still recognized the existing challenges:

> Federal health services to Indians have resulted in a reduction in the prevalence and incidence of preventable illnesses among, and unnecessary and premature deaths of Indians.
>
> Despite such services, the unmet health needs of the American Indian people are severe and the health status of the Indians is far below that of the general population of the United States....
>
> All other Federal services and programs in fulfillment of the Federal responsibility to Indians are jeopardized by the low health status of the American Indian people.

During the legislative deliberations prior to enactment of P.L. 94-437, there was extensive documentation of the major health problems of Indians, urban as well as rural, and those living on or near reservations. 7/ The purpose of this section is to provide highlights regarding Indian health status as well as provide updated vital statistics where available.

OVERVIEW — The American Indian population has a shorter life expectancy than the general U.S. population, and a higher age-adjusted mortality rate. Indians have a markedly increased likelihood of contracting tuberculosis, hepatitis and otitis media.

Lack of prenatal care to Indian mothers has been reported to be associated with a higher percentage of low birth weight infants and a considerably higher percentage of newborn deaths than mothers who did receive prenatal care. 8/

Approximately 20 percent of all deaths among Indians over the last decade occurred in infants and children in contrast to about 6 percent among the U.S. population as a whole. Gastroenteritis remains a major cause of death in American Indian infants and children.

The rank of the various diseases among Indian children has changed little in the last several years. It should be stressed that medical intervention alone will not automatically result in a reduction of all such diseases. 9/ Medical care is only one of the determinants of the health of Indian infants and children, as well as of Indian adults. It is well known that social and environmental conditions are intimately related to the health of American Indians. Living conditions on reservations were studied by the General Accounting Office in 1973, and it was found that 54 percent of all Indian families had no source of water in their homes; 65 percent lacked flush toilets; 48 percent had no satisfactory liquid waste disposal facilities; and 63 percent were using water from sources actually or potentially hazardous. More than half of the Indian population on reservations were living in one-room or two-room dwellings with an average occupancy per unit of slightly over five persons.

Improved living conditions, better housing, safer water supply and sewage disposal systems, better prenatal and postnatal care, and safer methods of infant food preparation have been cited as potentially contributing significantly to a reduction in diseases among Indian infants. 10/ Immunization, accessibility of medical and health care for both sick and well infants and children, early identification of illnesses coupled with prompt treatment, and health education of parents and children were noted as important factors for health intervention.

LIFE EXPECTANCY -- Although the life expectancy rate of American Indians has improved in recent years, it is still significantly below that of the total U.S. population. In particular, the expected life span as of 1970 was 65.1 years for American Indians and 70.9 years for the total population. Table 6 shows the comparative rates and differences for life expectancy for the years 1950, 1960, and 1970.

MORTALITY -- The age-adjusted mortality rate for American Indians on or near reservations is about 1.2 times the rate for the total U.S. population. The statistics reflect significantly higher mortality rates resulting from the following conditions:

- Tuberculosis, where the American Indian mortality rate is 5.1 times the rate of the total U.S. population;

- Alcoholism, where the American Indian mortality rate is 6.1 times the rate of the total U.S. population;

- Neonatal (within the first 27 days of life) and maternal deaths, where the American Indian rates are, respectively, 13 percent and 45 percent above the rate of the total U.S. population;

- Infant postneonatal deaths, (occurring between 28 days and 1 year of age) where the American Indian rate is over two times the rate of the total U.S. population. 11/

Higher mortality rates than the total U.S. population are also shown for accidents, influenza and pneumonia, and diabetes. Age-adjusted death

Table 6

Comparative Life Expectancy of Indian Population, 1950-1970.

Year	American Indian Population	Total U.S. Population	Difference
1970	65.1 years	70.9 years	5.8 years
1960	61.7	69.7	8.0
1950	60.0	68.2	8.2

Source: Indian Health Service, Office of Program Statistics and the Statistical Abstract Of The United States, 1975.

rates for accidents, and influenza and pneumonia are 3.7 and 2.1 times higher, respectively, than the total U.S. population. The age-adjusted death rate from cirrhosis of the liver is 4.1 times higher than the rate among Americans as a whole. The mortality for alcoholism, including cirrhosis of the liver with mention of alcoholism, rose 74 percent among Indians between 1966 and 1974 when it reached 52.8 per 100,000. Alcoholism, a widespread problem with multiple potential medical sequelae, together with an elevated suicide rate of 20.1 per 100,000 (1973-1975 average), and a homicide rate of 24.6 reflect the seriousness as well as the interrelationship of sociological and medical problems among American Indians. In both 1974 and 1975, one out of every five Indian deaths was the result of an accident, with a majority involving motor vehicles.

MORBIDITY — Major diseases, including notifiable (i.e., must be reported) categories affecting American Indians include otitis media (an inflammatory disease of the inner ear), gastroenteritis, strep throat, pneumonia, diabetes, influenza, gonococcal infections, trachoma, chicken pox, dysentery, and infectious hepatitis.

As shown in Table 7, the incidence of many of these major diseases for Indians on or near the reservations has also increased significantly in the 1962-1975 period.

One of the most serious health problems among Indians is otitis media. Untreated cases of acute otitis media can progress to chronic ear disease which, again untreated, may result in serious impairment of hearing. The risk of repeated episodes is greatly increased if the first attack occurs during the first year of life. For calendar year 1975, there were over 56,000 reported new cases of otitis media among American Indians. 12/ One in every four of these cases were children less than one year of age. Furthermore, of the over 56,000 cases, 65 percent occurred in children under 5 years of age. Since otitis media and resultant impairment of hearing frequently afflict Indian infants and children, it can contribute to learning disorders and school problems. 13/

Some differences in classification and reporting practices make it difficult to compare American Indian disease incidence rates to those of the total U.S. population. However, it is certain that the incidence rates for otitis media and trachoma (an infection of the eye which left untreated can result in blindness) 14/ are substantially above the U.S. population. Health problems of children, "well documented on Federal reservations, seem to be just as bad on a reservation where health care has been a responsibility of a State." 15/ When reporting is comparable, American Indians exhibit significantly higher incidence rates than the total U.S. population for certain diseases, including:

- Tuberculosis, for which the American Indian rate is almost seven times the rate of the total U.S. population.

Table 7

Incidence of Selected Diseases Among American Indians, 1975.

Notifiable Diseases	1975 Incidence Per 100,000 Population	Percent Increase Since 1962 a/
Otitis Media	10,784	184%
Strep Throat	6,786	499
Pneumonia and Influenza	6,107	38
Hepatitis	357	85

Source: Indian Health Service, Office of Program Statistics, 1977.

a/ This increase may be attributable to, in part, better detection methods and more comprehensive reporting, as well as increased occurrence.

- Dysentery and hepatitis for which the American Indian rates are, respectively, 42 and 12 times the rate of the total U.S. population. 16/

In addition, a study based upon a five-year period (1968-1973), suggested that some American Indians are especially susceptible to bacterial meningitis. If not detected early and appropriate medical intervention not promptly initiated and carefully monitored, the predicted outcome is quite poor - death or severe mental retardation and potential chronic disability including seizures, hearing impairment, etc. The annual incidence of H. influenzae meningitis and that of pneumococcal meningitis have been reported to be much higher than the rates for these life-threatening bacterial diseases within non-Indian population groups. 17/

MENTAL HEALTH DISORDERS — American Indians have expressed their deep concern over the mental health problems of their people, especially the increased incidence of alcoholism. In a study on the mental health of Alaskan Natives, the incidence of treated mental disorders was compared among five distinct Alaskan native groups. 18/

Alcoholism represented the major mental health problem in all the groups studied.

Alcoholism among American Indians and the associated historical and cultural considerations represent topics too complex to investigate here. A recent review article highlights the importance of alcoholism as a mental health problem of American Indians. 19/

Mental health disorders that were treated in IHS and contract hospitals highlight the magnitude and frequency of these problems among American Indians (Table 8).

Indians have been migrating from reservations to large cities in increasing numbers. Their personal and social adjustments to city life are as difficult or even more difficult than those experienced by individuals immigrating from other continents. 20/ Extreme cultural dislocation, breakup of extended families, elemental distrust of non-Indians, poverty, inadequate education, and poor health all severely limit the Indian's ability to cope with city life.

Data on indices of disease for urban Indians are limited. However, discussions with American Indians indicated a widespread and strongly expressed viewpoint that the Indians in urban areas have mortality and disease incidence rates similar to the rates found for reservation Indians. The findings of two recent studies appear to support this point of view:

Table 8

Mental Disorders in IHS and Contract Hospitals, 1971 and 1976

	Number of Disorders 1971	 1976
Total	5,310	6,833
Alcoholism and drug dependence	3,430	4,870
Neuroses and personality disorders	1,030	920
Psychoses (non-organic)	329	452
Transient situational disorders	159	258
Organic Brain Syndrome	143	143
All other	219	190

Source: Indian Health Service, January, 1977.

- During the period 1968-1970, the American Indians in Hennepin County (metropolitan Minneapolis, Minnesota) exhibited a significantly higher infant death rate than did the county's total population: the American Indians had 35.3 infant deaths per 1,000 live births, as compared to a rate of 22.9 for the total county population. 21/

- From October 1973 through October 1974, the Seattle Indian Health Board reported of its urban Indian constituents that, "the frequency of diagnosis of alcohol abuse, otitis media, and minor trauma, corroborates, in general terms, data available from the Indian Health Service on Indian health programs." 22/

Education Characteristics

Education levels of American Indians are significantly below those of the total U.S. population. As of 1970, approximately 33.3 percent of the American Indians over 25 years had completed high school, compared to 52.3 percent in the total U.S. population. 23/ Among urban Indians, the percent of high school graduates was 43.5 percent. The current high school dropout rate for American Indian students is not uniformly reported and is difficult to derive. "Two well-executed, in-depth studies completed in the late 60's showed a combined drop-out rate of 42 percent. Since completion of these studies, various facts, including a greatly increased enrollment of Indians in colleges, indicate a lowering of the rate." 24/

Approximately 17,000 American Indians in 1977 received scholarship support from the Bureau of Indian Affairs to participate in undergraduate and graduate higher education programs. 25/ Nonetheless, the attrition rate for Indians in higher education may be over 70 percent. 26/

The record of attrition for American Indian students at high school and college is cause for deep concern. In an effort to enhance American Indian educational opportunities, educational centers providing supplementary and enrichment programs for high school graduates are being planned in five cities: Anchorage, AL; San Francisco, CA; Denver, CO; Chicago, IL; and the District of Columbia. 26/,

These regional centers are expected to provide enrichment study as well as study addressing areas of weakness for the high school graduate desiring to pursue a college education. The centers will continue to provide supportive study during the college years, and assistance to college graduates aspiring to graduate or professional school. Furthermore, an enrichment program is planned for adults, across all age groups, relating to careers and continuing education. When fully operational, it is anticipated that the five centers will enhance access to educational opportunities as well as contribute to a reduction in Indian student attrition.

Economic Characteristics

The American Indian population is economically poorer than the general U.S. population. "In 1970, the average per capita income of all Indians in the United States was $1,573 according to the Census." 27/ For rural Indians, the average per capita income was $1,140. Also, the income of 38.3 percent of all American Indians was below what was then considered to be the poverty level, whereas the income of only 12.6 percent of the total U.S. population was below poverty level. "The average unemployment rate on Indian reservations as of March, 1973 was 37 percent with an additional 18 percent employed in merely temporary or seasonal jobs. The national unemployment rate at the same time was about five percent." 28/

The data indicate that the economic problems urban American Indians experience are similar to those of American Indians living on or near reservations. In 1970, the average per capita income was $2,108 for urban Indians. By way of further illustration, the per capita income of urban Indians in Oklahoma in 1970 was 27 percent below the average of all persons in the State. In California, Arizona, and Michigan, the per capita income of the urban Indians were respectively 33, 56, and 28 percent below the State averages.

In 1975, for Indians living on Federal reservations, the average per capita income was estimated to be $1,520. 29/

Health and the Indian Cultural Heritage

American Indians are distributed among approximately 500 tribes and communities with over 250 existing languages. Many of these languages are utilized by a very limited number of speakers, while some are still spoken by many thousands of people. 30/

The geographical settings for American Indian peoples have been as varied as desert to dense forest to tundra.

Historically, ways of life, beliefs and myths, traditions, ceremonies, social structures, and tribal character have also been varied, even among tribes linked through language structure. "While their cultures are diverse, Indians have had a shared experience which unites them in spirit, and it has given them a sense of common identity." 31/ Certain fundamental characteristics pertain to almost all American Indian cultures of the past and persist to the present day. They have always stressed, for instance, the interdependency of man and nature, the balance that exists between individuals and their environment.

Some traditional Indian traits which impinge on health are closely extended family relationships and acceptance and mutual respect for differing Indian languages (verbal and symbolic), customs, beliefs, ceremonies, and religions. There is also a widespread acceptance of the role of the medicine man.

The word for "power" in many native Indian languages is identical to the word for "medicine." American Indian medicine, traditional social structure, tribal roles, and often, everyday tasks reflect persistence of the unique Indian heritage. Included within this heritage is a reverence for all natural processes. From the American Indian perspective, the practice of medicine is an attempt to preserve or reestablish the integration of man with nature. 32/

Throughout the history of the American Indians, it is a sign of the great strength of these peoples that they and part of their ways of life have survived the countless factors impacting against their survival. Indian peoples are thus linked by a tragedy common to the Indian cultural heritage:

> The dominant feature of the history of North American Indian culture has been the crushing effect of the white man. In an exceedingly short space of time, tribes lost their homelands, their livelihood, their numerical strength and the freedom to lead their life as they pleased.... In spite of these adversities of the past, in many areas the core of traditional Indian thought still governs the tribal way of life. 33/

The strength and uniqueness of the Indian culture, and its critical importance in any discussion of health care for Indians, is illustrated by the finding that Indian medicine is still being used by significant numbers of American Indians living in urban areas. 34/ Analysis of economic and social integration into city life added little to the understanding of cultural differences, Indians who were well educated, had high incomes, and were well established in the city continued to use traditional medicine. The concomitant use of traditional Indian medicine and non-Indian medicine (i.e., modern Anglo medicine) was revealed as an important incentive for Indians having health problems to return to the reservation where both were available.

The Federal-Indian Relationship

Today the vast majority of American Indians have a legal-historical relationship with the Federal Government unlike that of any other group of citizens. Initially, American Indians negotiated treaties with the original colonies for the exchange of goods and services. These treaties provided the basis for the evolvement of the Federal-Indian relationship.

The Federal Constitution expressly conferred upon the Congress of the United States the power to regulate commerce with Indian tribes.

Article I, Section 8:

> "The Congress shall have the power...to regulate Commerce with Foreign Nations, and among the several states, and with Indian Tribes."

Supplementary to the constitutional power over commerce with Indian tribes, the Federal Government was constitutionally endowed with plenary power over the making of treaties.

Article II, Section 2:

> "...He (the President) shall have power, by and with the Advice of the Senate, to make treaties, provided two-thirds of the Senators present, concur...."

The tribal sovereignty of American Indians - the right to "self-government" - was first explicitly delineated by the U.S. Supreme Court in 1832. Yet, it clearly recognized that the power to abolish, limit, and modify the original tribal sovereignty is the sole prerogative of the Congress. In addition to the constitutional authorities of the President and the Congress, some 2,500 laws and numerous court decisions define the Federal-Indian relationship and the responsibilities of the Government toward Indian Nations, tribes and other Indian groups. 35/

The 1928 Merriam Report concluded that the Government's paternalistic policy toward American Indians allowed Federal officials to act as colonial administrators on reservations. It recommended a move toward Indian self-determination and self-government. Congress enacted the Indian Reorganization Act in 1934, which granted citizenship to American Indians and brought some measure of Indian control and self-government. But the tribes were given little opportunity to set priorities or to become involved in the administration and operation of federally-funded programs.

Based upon a combination of four Acts (Buy Indian Act of 1910, Johnson O'Malley Act of 1934, Snyder Act of 1921, and an 1834 Act), the competitive bidding of contracts with Indian tribes was waived, including those that were related directly to the provision of educational services for Indian children in public schools, and other services contracted under the Snyder Act. In addition, the provisions included the supervision of Federal employees involved in the operation of contracts by Indian tribes.

While the attempt of this policy was to improve the quality of education and to promote greater self-determination for Indian tribes, problems occurred such as the inability of the Federal Government to exempt tribal contracts from the Federal Procurement Regulations and to authorize payments in advance of tribal performance on contracts.

After the brief "termination" policy of the 1950's under which the Federal-Indian relationship was to have been terminated, the U.S. Government initiated a policy of Indian autonomy which was thought to be consistent with Federal responsibilities to American Indians.

Independent of the unique relationship, Indian people have another relationship with the United States based upon another set of laws that govern the total population. American Indians are citizens of the United States and residents of the States in which they dwell. They have all of the rights that our Federal and State laws guarantee to all citizens/residents. As a result of this dual relationship with the United States Government, American Indians have dual access to the special Federal Indian programs and to the full range of Federal programs to assist the public.

Federal Health Policy Relating to American Indians

American Indian health is closely interwoven with the cultural heritage and, equally as significant, with the history and daily reality of the Federal-Indian relationship. Within the Indian Health Care Improvement Act, in a Statement of Findings, Congress explicitly recognized the uniqueness of the Federal-Indian relationship:

> Federal health services to maintain and improve the health of the Indians are consonant with and required by the Federal Government's historical and unique legal relationship with, and resulting responsibility to, the American Indian people.

In the early days of the United States, the only Federal health services available to Indians were provided by the military physicians assigned to frontier posts and reservations. At times, these services were rendered in fulfillment of treaties. The primary concern of the frontier physicians, however, was prevention of the spread of smallpox and other highly contagious diseases - diseases which were virtually unknown to Indians prior to the arrival of non-Indian populations.

In 1849, the responsibility for Indian health was transferred from the War Department to the Department of the Interior.

By 1874, about one-half of the Indian agencies were each supplied with a physician. After 1878, physicians on Indian reservations were required to be graduates of medical colleges.

Between 1860 and 1890, several hospitals were established, and by 1900, the Federal physicians serving the Indians numbered 83. By this time too, Indians were well acquainted with diseases brought by the non-Indian: smallpox, tuberculosis, and other diseases all took their toll.

Furthermore, based in part upon language differences, physicians providing care to Indians were uninformed in areas such as traditional Indian medicine and Indian culture:

> "The conflict between traditional Indian beliefs and Western medicine contributed to the many problems faced by agency physicians. Traditionally, the medicine men were responsible for both the physical and spiritual health of their people. Some native doctors were very skillful in dealing with battle wounds and broken bones. Others successfully treated ailments with empirically derived techniques and herbal remedies. They provided the only health care for Indians in camps isolated from the agency....
>
> For many Indians, the cultural gap remains almost as wide in the 1970s as it was in 1870." 36/

Although rare, some physicians did strive to become knowledgeable in areas of Indian culture and traditional medicine. 37/

The Snyder Act in 1921, enacted during the period generally referred to as the "wardship policy" phase, provided explicit legislation for direct Federal health care for Indians. The Secretary of Interior was authorized to expend funds for the "relief of distress and preservation of the health of Indians." This legislative statement continues to provide a basis for the Federal Government's obligation to provide health services to Indians.

Also in the 1920's, Public Health Service commissioned officers were assigned to give Indian health care. While these medical and public health officers strengthened the Federal Indian health program, the program continued to be plagued by outdated facilities, severe understaffing, and inadequate funding. In 1934, the Indian Reorganization Act and the Johnson-O'Malley Act extended the "New Deal" to American Indians. The Indian Reorganization Act, as noted earlier, provided self-government to American Indian tribes under charters approved by the Department of the Interior. Complementing this, the Johnson-O'Malley Act authorized State governments to contract with the Federal Government to provide health and educational assistance to American Indians. 34/

A major legislative milestone was achieved in 1955 with the passage of the Transfer Act. Under this Act, Federal responsibility for the health care of American Indians was transferred from the Bureau of Indian Affairs to the Division of Indian Health of the

Public Health Service. Following a number of DHEW administrative reorganizations, the Division of Indian Health was retitled, in 1968, the Indian Health Service.

In that same decade, two more acts that had major impact upon the health of the American Indians were passed. The Indian Health Facilities Act of 1957 authorized the Indian Health Service (IHS) to contribute to the construction costs of community hospitals when doing so would be a more desirable and effective method of providing needed hospital facilities for American Indians than would the direct construction of separate American Indian facilities. In 1959, the passage of the Indian Sanitation Facilities and Construction Act (P.L. 86-121) expanded the scope of IHS programs to address the gross deficiencies in Indian sanitation facilities. In particular, as part of the provision of preventive health care, IHS was authorized to fund the construction of domestic water and waste systems for American Indians. As an outcome since 1959, IHS has assisted in the provision of running water and waste disposal systems for over 92,000 American Indian homes. 38/

Present Indian Health Programs

The Indian Health Service has assisted American Indian tribes to develop their capacities to staff and manage health programs, to coordinate health planning, to obtain and utilize health resources, and to evaluate health programs.

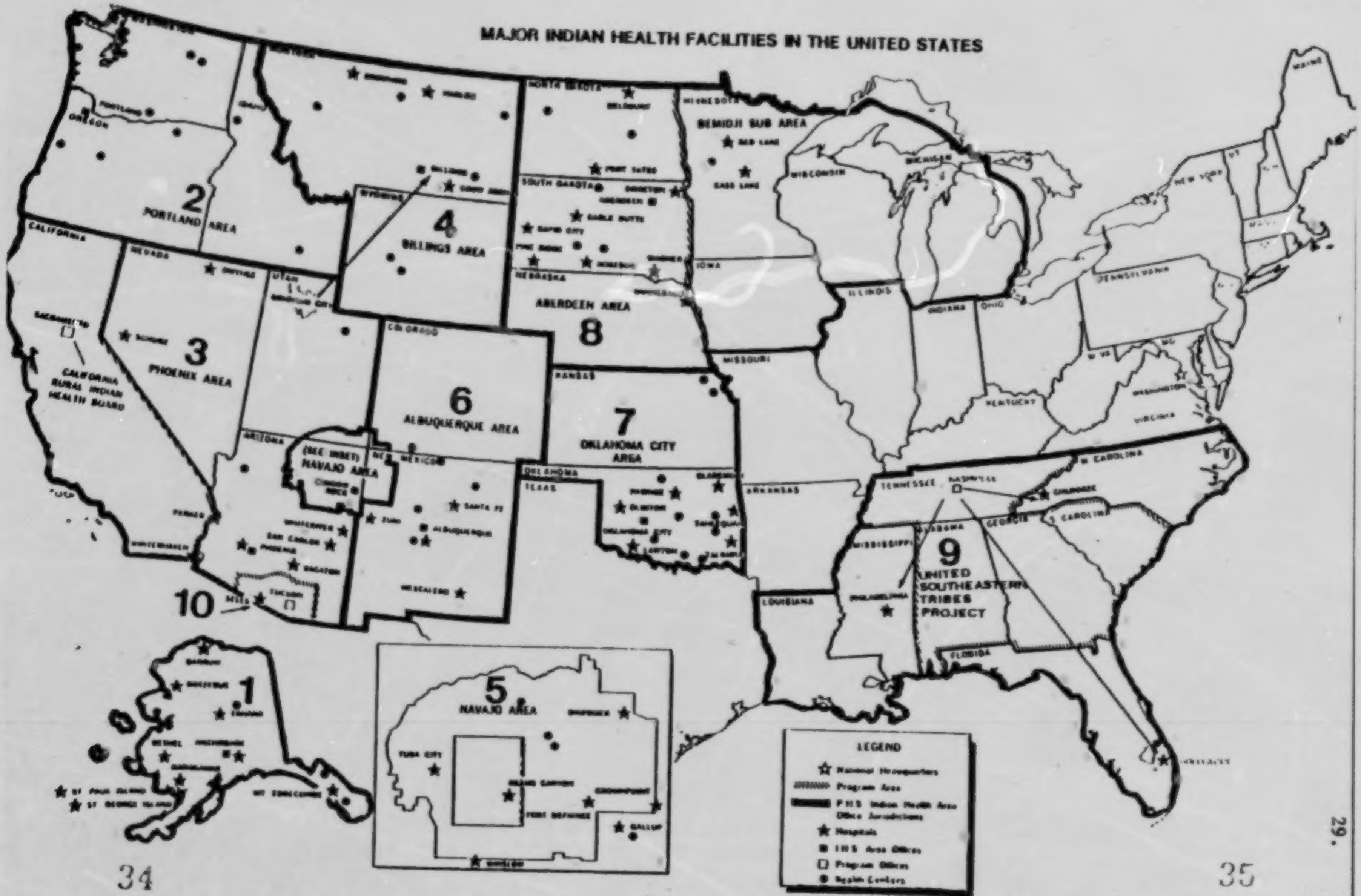
The Indian Health Service provides services under two separate mechanisms, direct care and contract care. Under direct-care programs, health services are provided by IHS professionals in IHS facilities that are on or near reservations. IHS facilities include 51 hospitals (which are located across 12 states), with a total of 2,607 beds; 99 health centers, (including 26 school health centers); and over 300 health stations and locations (Chart 1). Twenty-nine of the 51 hospitals are accredited by the Joint Commission on Accreditation of Hospitals (JCAH), and one hospital has residency programs approved by the Liaison Committee on Graduate Medical Education (LCGME) (Table 9).

The IHS direct care programs include acute hospital and medical care, preventive health services, services for psychiatric patients, dental services, eye care and prescription drugs. The IHS staff for these programs includes a total of 522 physicians, 208 dentists and 1,404 registered nurses. IHS estimates that of the 522 physicians, approximately 475 provide direct patient care. 39/

Contract care is used to supplement and complement other health care resources available to Indian people. In contractual arrangements with hospitals, private physicians and clinic groups,

CHART 1

MAJOR INDIAN HEALTH FACILITIES IN THE UNITED STATES


1
2
PORTLAND AREA
3
PHOENIX AREA
4
BILLINGS AREA
5
NAVAJO AREA
6
ALBUQUERQUE AREA
7
OKLAHOMA CITY AREA
8
ABERDEEN AREA
9
UNITED SOUTHEASTERN TRIBES PROJECT
10
BEMIDJI SUB AREA
CALIFORNIA RURAL INDIAN HEALTH BOARD
(SEE INSET) NAVAJO AREA
WASHINGTON
OREGON
IDAHO
MONTANA
WYOMING
CALIFORNIA
NEVADA
UTAH
ARIZONA
COLORADO
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MINNESOTA
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
MICHIGAN
ILLINOIS
INDIANA
OHIO
KENTUCKY
TENNESSEE
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
S CAROLINA
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VIRGINIA
W VA
PENNSYLVANIA
NEW YORK
VT
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MASS
MAINE
MD
PORTLAND
BILLINGS
SACRAMENTO
RAPID CITY
PINE RIDGE
EAGLE BUTTE
FORT YATES
ABERDEEN
RED LAKE
CASS LAKE
WHITERIVER
SAN CARLOS
PHOENIX
SACATON
SELLS
TUCSON
PARKER
ZUNI
ALBUQUERQUE
SANTA FE
MESCALERO
CLINTON
PAWNEE
CLAREMORE
OKLAHOMA CITY
LAWTON
TALIHINA
NASHVILLE
CHEROKEE
PHILADELPHIA
WASHINGTON
BARROW
KOTZEBUE
TANANA
BETHEL
ANCHORAGE
ST PAUL ISLAND
ST GEORGE ISLAND
MT EDGECUMBE
TUBA CITY
SHIPROCK
KEAMS CANYON
FORT DEFIANCE
CROWNPOINT
GALLUP
WINSLOW
LEGEND
☆ National Headquarters
Program Area
PHS Indian Health Area Office Jurisdictions
★ Hospitals
■ IHS Area Offices
□ Program Offices
● Health Centers

Table 9

Indian Health Service Hospitals, By State, 1976.

State/City	Number Of Beds[a]	State/City	Number Of Beds[a]
ALASKA (9)		NEBRASKA (1)	
Anchorage (b)	170	Winnebago	50
Barrow (b)	13		
Bethel (b)	42	NEVADA (2)	
Kanakanak (b)	29	Owhyee	17
Kotzebue (b)	26	Schurz	26
Mt. Edgecumbe (b)	82		
St. George Island	6	NEW MEXICO (7)	
St. Paul Island	4	Albuquerque (b)	64
Tanaa (b)	20	Crownpoint	56
		Gallup (b)	181
ARIZONA (11)		Mescalero	15
Ft. Defiance (b)	76	Santa Fe	35
Ft. Yuma	19	Shiprock (b)	75
Keams Canyon (b)	38	Zuni (b)	35
Parker	20		
Phoenix (b)& (c)	191	NORTH CAROLINA (1)	
Sacaton (b)	30	Cherokee	26
San Carlos (b)	36		
Sells (b)	40	NORTH DAKOTA (2)	
Tuba City (b)	125	Belcourt (b)	50
Winslow	40	Ft. Yates	32
White River (b)	38		
		OKLAHOMA (6)	
MINNESOTA (2)		Claremore	40
Cass Lake (b)	24	Clinton	14
Red Lake (b)	30	Lawton (b)	52
		Pawnee	14
MISSISSIPPI (1)		Tahlequah (b)	40
Philadelphia	40	Talihina (b)	52
MONTANA (3)		SOUTH DAKOTA (6)	
Browning (b)	34	Eagle Butte	33
Crow Agency (b)	34	Pine Ridge (b)	58
Harlem	18	Rapid City (b)	54
		Rosebud	41
		Sisseton	32
		Wagner	26

Source: Indian Health Service. 1977.

(a) As of June 30, 1976.

(b) Accredited by the Joint Committee on Accreditation of Hospitals as of March 31, 1977.

(c) Has LCGME approved residency programs, under a consortium arrangement, in internal medicine, pediatrics, obstetrics/gynecology, and surgery.

dentists, and other providers, IHS purchases health services in locations where IHS resources are inadequate. IHS currently has negotiated contracts with approximately 800 physicians and clinic groups for the provision of medical care to Indians. 40/

Federal support is being provided through IHS, for a number of health care projects for urban Indians, by way of funds appropriated specifically for that purpose. Currently, IHS is funding 30 projects which extend health care referral and outreach services to urban American Indians throughout the United States. Approximately 10 of these projects have evolved into health clinics for direct and contract care (Table 10). The IHS budget has increased from $24.5 million and a staff of 3,600 in 1955, to $348 million and a staff of 9,000 in 1977 (Table 11). Still, many Indians continue to live in environments that are inadequately served by medical manpower and facilities, and face the continuing dangers of life-threatening as well as disabling diseases.

In concluding this background chapter, several points should be highlighted.

The American Indian population has a high proportion of infants and children. Furthermore, the Indian population differs, for the most part, in its disease patterns, from the total U.S. population.

Future challenges related to health care for American Indians are at least twofold. First, there is a challenge to develop effective approaches to deal with the prevalent acute diseases which presently afflict Indian peoples, as well as approaches to deal with the high incidence of alcoholism, and effective approaches to accident prevention. Second, there is a challenge to anticipate and to develop approaches which meet unique Indian needs in the management of chronic diseases which are likely to increase in prevalence as the demographic characteristics (e.g., percentage of elderly individuals, etc.) of the American Indian population change.

Over time, two basic requirements for the delivery of health care to the Indians have come to be recognized: (1) a continuing effort to understand Indian life, ideas, cultural heritage, lifestyles and communication and (2) the participation and leadership of Indian people in the Federal health programs for Indians. If these requirements are met, it becomes possible for the Indian people themselves to participate in solving the difficult problems of medically underserviced, and often geographically isolated or remote, Indian peoples.

TABLE 10

Indian Health Service Urban Health Care Projects,
By State, 1977

State	Project	Location
CALIFORNIA (Under the California Urban Indian Health Council, Inc.)	Urban Indian Health Services, Inc.	Fresno
	Indian Free Clinic, Inc.	Huntington Park
	Sacramento Urban Indian Health Projects, Inc.	Sacramento
	Santa Barbara Urban Indian Health Project, Inc.	Santa Barbara
	Native American Health Center	San Francisco
	American Indian Free Clinic, Inc.	Compton
	Indian Health Center of Santa Clara Valley, Inc.	San Jose
	American Indian Health Clinic	San Diego
COLORADO	Denver Native American United	Denver
ILLINOIS	American Indian Health Services	Chicago
KANSAS	Mid-America Indian Center	Wichita
MICHIGAN	Detroit American Indian Center	Detroit
MINNESOTA	Indian Health Board of Minneapolis	Minneapolis
MONTANA (Under the Montana United Indian Association)	Billings American Indian Council	Billings
	North American Indian Alliance	Butte
	Great Falls Indian Education Center	Great Falls
	Helena Indian Alliance	Helena
	Missoula Qua-Qui Corporation	Missoula
	Hi-Line Indian Alliance	Harve
	Indian Development and Education Alliance	Miles City
	Anaconda Indian Alliance	Anaconda
NEBRASKA	United Indians of Nebraska	Omaha
OKLAHOMA	Oklahoma City Urban Indian Health Project	Oklahoma City
	Indian Health Care Resource Center	Tulsa
OREGON	Urban Indian Council, Inc.	Portland
TEXAS	Dallas Inter-Tribal Center	Dallas
WASHINGTON	Seattle Indian Health Board	Seattle
	Native American Center	Spokane
WISCONSIN	Milwaukee Indian Health Board	Milwaukee
	Green Bay Urban Health Project	Oneida

Source: Indian Health Service. 1977.

Table 11

Indian Health Service Budget
(Fiscal Year 1977)

Program Area	Amount Budgeted
Patient Care	
Hospital care	$115,140,000
Contrast care	63,523,000
Ambulatory Care	64,121,000
Preventive Health	
Field medical service	72,497,000
Dental	11,217,000
Sanitation	10,332,000
Public health nursing	5,549,000
Health education	2,434,000
Program Management	3,717,000
Total	$348,530,000

Source: Indian Health Service, Revised Justification For Appropriations, Fiscal Year 1978.

CHAPTER II

FOOTNOTES

1/ IHS estimate for fiscal year 1977.

2/ The 1970 Census of Population for the United States recorded 792,730 Indians exclusive of Aleuts and Eskimos. Aleuts and Eskimos totaled 34,378, for a combined total American Indian population of 827,108.

3/ Difficulty can be encountered in comparing Indian population figures throughout this Report:

> "The composition of any racial group, but particularly American Indians, is socially defined, so that accurate and consistent population estimates are difficult to derive." (Passel, J.S.; p. 408 - see footnote 5/ below.)

Basic sources of data utilized in this Report to Congress (e.g., the 1960 and 1970 Census, and vital statistics data over the last several decades) employ somewhat different definitions, concepts, and methods for ethnic classifications. Finally, over time and given slight differences in survey instruments, ethnic self-identification is also susceptible to change.

4/ Apart and distinct from Federal reservations, there are reservations in several States, e.g., New York, Maine, Virginia and Florida. By way of illustration, in New York State, approximately 10,000 American Indians live on six Indian reservations. (Source: U.S. Department of the Interior, Bureau of Indian Affairs. "Indians of the Eastern Seaboard". Washington, D.C.: GPO Stock No. 024-002-00014-4. 1975.)

5/ Passel, J. S. Provisional evaluation of the 1970 census count of American Indians. *Demography*, 13(3):397-409, 1976.

6/ Health status findings in this discussion are based, for the most part, upon data covering American Indians receiving IHS care in the 354 counties across 25 states in which IHS provides services. References are provided in instances where the data discussed are not derived solely from the IHS service population.

7/ House Report No. 94-1026, Part 1: pp. 53-71, 109-116; Senate Report No. 94-133: pp. 67-86, 131-138.

8/ Niswander, J. D., and Woodville, L. Relation of prenatal care to birth weights, major malformations, and newborn deaths of American Indians. *Health Services Reports*, 88:697-701, 1973.

9/ Rogers, K. D., et al. Effectiveness of agressive follow-up on Navajo infant health and medical care use. *Pediatrics*, 53(5):721-725, 1974.

10/ Wallace, H. M. The health of American Indian children. *American Journal of Diseases of Children*, 125:449-454, 1973.

11/ Public Health Service, "Indian Health Trends and Services." 1975.

12/ IHS, Office of Program Statistics, DRC, Vital Events Branch, January 7, 1977.

13/ Axelsson, A., and Lewis, C. Aspects on delivery of ear, nose and throat care to Montana Indians. *Public Health Reports*, 89(6):551-557, 1974.

14/ Bettman, J. W. Eye disease among American Indians of the Southwest. *Archives of Ophthalmology*, 90:440-446, 1973.

15/ Staub, H. P., et al. Health supervision of infants on the Cattaraugas Indian Reservation, New York. *Clinical Pediatrics*, 15(1):44-52, 1976.

16/ Comptroller General of the United States, *Progress and Problems in Providing Health Service to Indians*, March, 1974.

17/ Coulehan, J. L., et al. Bacterial meningitis in Navajo Indians. *Public Health Reports*, 91(5):464-468, 1976.

18/ Foulks, E. F., and Katz, S. The mental health of Alaskan Natives. *Acta Psychiatrica Scandinavica*, 49:91-96, 1973.

19/ Brod, T. M. Alcoholism as a mental health problem of Native Americans. *Archives of General Psychiatry*, 32:1385-1391, 1975.

20/ Westermeyer, J. Erosion of Indian mental health in cities. *Minnesota Medicine*, 59(6):431-433, 1976.

21/ McCreary, C., et al. Indian health in Minnesota. *Minnesota Medicine*, 56(Suppl. 2):37-90, 1973.

22/ Seattle Indian Health Board, "Data Analysis and Program Activities Report, July 1973-April 1974," June, 1974.

23/ U.S. Bureau of the Census. "We, The First Americans." Washington, D.C.: GPO Stock No. 0324-00204. 1973, p. 15.

24/ U.S. Department of the Interior, Bureau of Indian Affairs. "The American Indians. Answers to 101 Questions." Washington, D.C.: GPO Stock No. 2402-00040. 1974, p. 26.

25/ "The Budget of the United States Government, 1978 - Appendix". Washington, D.C.: GPO Stock No. 041-001-00134-4. 1977, p. 467. (In addition to BIA support, the Office of Education, DHEW, provides grant support for Indian higher education. Ibid., p. 333).

26/ Personal communication - staff of the Western Interstate Commission for Higher Education (WICHE).

27/ Op. cit., "The American Indians. Answers to 101 Questions", p. 18.

28/ Ibid.

29/ U.S. Department of the Interior, Bureau of Indian Affairs. "Facts on American Indians and Alaskan Natives." August, 1976, p. 1.

30/ Op. cit., "The American Indians. Answers to 101 Questions", p. 5.

31/ Ibid., p. 4.

32/ Twaddle, A. C., and Hessler, R. M. *A Sociology of Health*. St. Louis: C. V. Mosby. 1977, pp. 152-156.

33/ Descriptive literature for "Sacred Circles: Two Thousand Years of North American Indian Art," an exhibition at the Nelson Gallery/Atkins Museum in Kansas City in 1977. This momentous showing highlights the growing national awareness as well as the heightened appreciation of both the beauty and the uniqueness of the American Indian cultural heritage.

34/ Fuchs, M., and Bashshur, R. Use of traditional Indian Medicine among urban Native Americans. *Medical Care*, 13 (11):915-927, 1975.

35/ U.S. Code -- Congressional and Administrative News, Legislative History, P.L. 93-638, Indian Self-Determination and Educational Assistance Act, Background on S. 1017, p. 7780-7781.

36/ Allen, V.R. Agency physicians to the Southern Plains Indians, 1868-1900. *Bulletin of the History of Medicine*, 49:318-330, 1975.

37/ Porvaznik, J. Washington Matthews, M.D., the Navajo years. *New England Journal of Medicine*, 296(18):1042-1044, 1977.

38/ Indian Health Service. "Forward Plan: 1978-82". October, 1976, p.1.

39/ Personal Communication, IHS staff, August, 1977.

40/ IHS "Draft Forward Plan: 1979-1983" p. 7

CHAPTER III

ASSESSMENT OF NEEDS

Health Care Resources

Recognizing the advances in Indian health care that have been achieved, primarily through the efforts of the Indian Health Service, the American Indians have come to expect an expanded range of health care services at the same time as public awareness has recast high quality health care as a right rather than a privilege. Within P.L. 94-437, Congress in a Statement of Findings noted this trend:

> "The Indian people's growth of confidence in Federal Indian health services is revealed by their increasingly heavy use of such services. Progress toward the goal of better Indian health is dependent on this continued growth of confidence. Both such progress and such confidence are dependent on improved Federal Indian health services."

The result has been an unprecedented demand that has put a severe strain on the existing methods of health care delivery for Indian peoples.

Problems that characterize this strain on the present system include:

- inequities in the distribution of health manpower and facilities that leave some areas or Indian communities with too few or no physicians, nurses and other health professionals;
- lack of continuity in physician/Indian patient interactions contributed to directly by the high turnover rate for physicians currently providing health services to Indian peoples;
- heightened problems in physician assessment and management of disease among Indians owing largely (but certainly not exclusively) to the differing orientation and emphases of modern medicine as contrasted to traditional Indian heritages;
- the need for increased Indian participation and leadership in the delivery of medical care to Indian peoples;
- problems related to patient compliance, based, in large part, upon cultural differences between the American Indian population and non-Indian medical care providers; and
- the need for additional resources to adequately address currently identified Indian health care problems.

IHS MEDICAL PERSONNEL

PHYSICIANS AND NURSES

The Indian Health Service serves as the primary provider of health care to American Indians residing on or near reservations. The total IHS staff (as of May 1977) consisted of 522 physicians and 1,404 registered nurses to care for a service population of 538,000. 1/

The weaknesses in meeting the medical care needs of Indians are highlighted by a comparison of the pool of medical and nursing personnel for the IHS service population as contrasted to the total U.S. population.

For those Indians living on or near reservations:

- 1 physician serves 1,031 persons compared with a 1 to 603 ratio for the total U.S. population.
- 1 registered nurse serves 383 persons compared with a ratio of 1 to 246 for the total U.S. population.

IHS has estimated that approximately 475 of the 522 IHS physicians directly provide medical care to American Indians. IHS physicians are full-time employees.

As noted in Chapter II, in addition to the physicians providing direct care, IHS has negotiated contracts with approximately 800 physicians to provide care to Indians in locations where IHS physician resources are insufficient to meet the needs. The average hours per week spent by IHS contract physicians in the delivery of care solely to Indians is not known. Assuming that the amount of care provided by the IHS contract physicians is directly related to the ratio between IHS budget for contract care and direct care 2/, IHS contract physicians, in the aggregate, spend approximately 35 percent of their work week delivering health care solely to American Indians, according to the computation which follows:

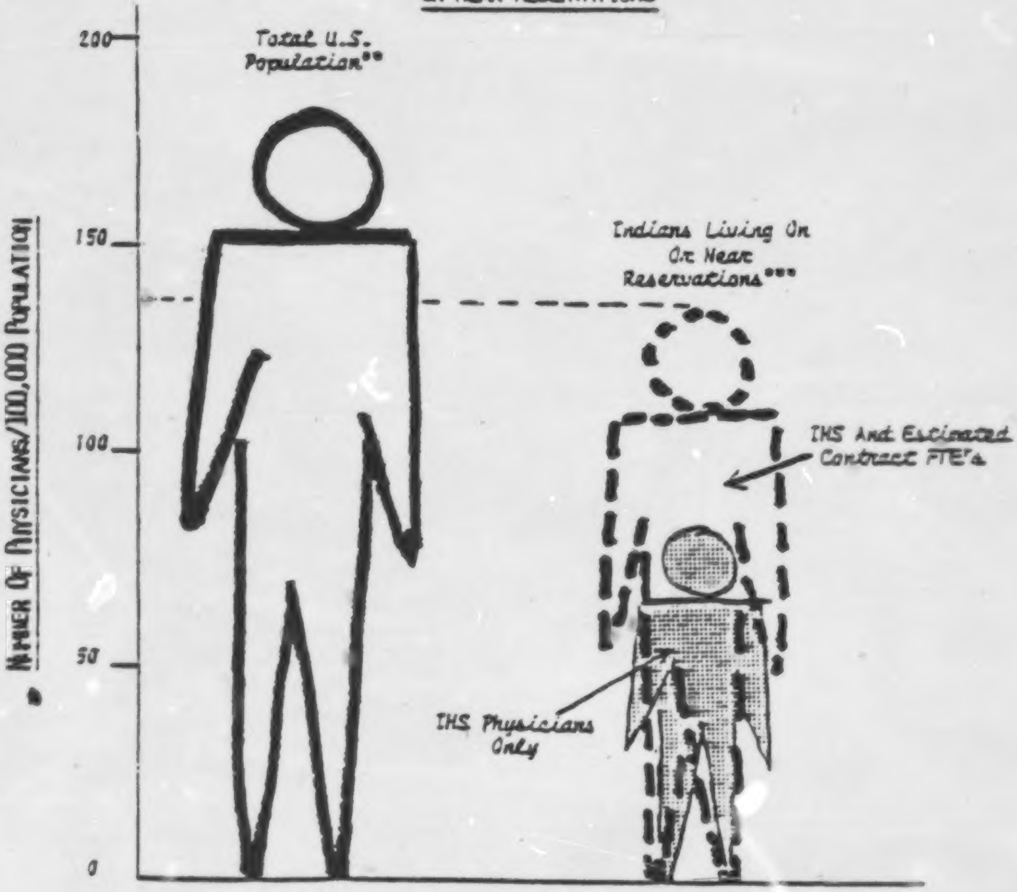
$$\frac{\text{\$ Contract care (in millions)}}{\text{\$ Direct care (in millions)}} \qquad \frac{63.5}{115.1 + 64.1}$$

In terms of full-time equivalents (FTE), applying this ratio to the 800 contract physicians (35 percent of 800) provides an estimated 280 FTE contract physicians who provide health care to the IHS service population.

Chart 2 contrasts the resultant physician-to-population ratios for this Indian population (538,000) with the ratio for the total U.S. population. The physician manpower disparity for the Indian people is especially

CHART 2

COMPARISON OF PHYSICIAN/POPULATION RATIOS FOR TOTAL U.S. POPULATION VERSUS INDIANS LIVING ON OR NEAR RESERVATIONS



**Projection For 1977 Based Upon 1975 Data: Total Active Physicians (M.D.'s + D.O.'s) In Patient Care—Non-Federal And Federal

***Total IHS Physicians In Patient Care = Approximately 475 Plus Estimated 280 FTE's From Contract Care (See Text) Totaling 755 Physicians For Estimated Direct Service Population Of 538,000 acute when viewed against the higher age-adjusted mortality rate and increased likelihood of Indians becoming affected with diseases such as tuberculosis, hepatitis, otitis media, and other diseases discussed in Chapter II.

The magnitude of the medical personnel shortage may be alternatively expressed as the number of physicians and nurses needed simply to bring the American Indian population in line with the total U.S. population: 3/

- 370 additional physicians, an increase of 71 percent above current levels
- 939 additional registered nurses, an increase of 75 percent above current levels

PHYSICIAN ASSISTANTS AND NURSE PRACTITIONERS

Currently, within IHS professional staff, there are 85 physician assistants who, either singly or as members of a health care delivery team, carry out the standing orders of physicians and perform physical examinations and other duties. The physician assistants are often assigned to remote areas. Indian tribes employ an additional 16 physician assistants. Thus, over 100 physician assistants are involved in the provision of health services to Indian peoples.

The Indian Health Service presently employs 41 nurse practitioners in all aspects of health care delivery. IHS nurse practitioners manage health clinics in remote areas, conduct classes in health education, and conduct screening tests for a variety of diseases and disabilities. At the request of a number of tribal health representatives, they are conducting classes in weight control which is directly relevant to problems of hypertension and diabetes among American Indians.

IHS FACILITIES

In addition to a sufficient supply of medical personnel, the effectiveness of a health care delivery system depends upon the utility, efficiency and modernity of the health care facilities. An overview of IHS facilities was provided in Chapter II.

Of the 51 Indian Health Service hospitals, 29 (located across 8 States) are accredited by the Joint Commission on Accreditation of Hospitals (JCAH). This was noted in Table V in Chapter II.

Twenty-two of the IHS hospitals (located across 11 States) have not been accredited by the JCAH, many because of manpower shortages or failure to meet fire and environmental safety standards.

According to IHS, its existing hospitals and field clinics, to be adequately staffed, would require at least 2,000 more personnel (including health professionals and support staff). At eight IHS hospitals, adequate staffing would necessitate at least doubling current staff size. 4/

In response to the shortcomings in the IHS health care facilities, under Title III of P.L. 94-437, Congress enacted a 7-year facilities plan that provides for the replacement, modernization or repair of approximately 40 IHS hospitals between 1977 and 1983. The appropriation for fiscal year 1978 for all Title III activities related to the construction and renovation of health care facilities is $49.4 million.

Hospital admissions and outpatient visits in IHS and contract facilities provide an additional dimension of the need for medical manpower and health care facilities.

American Indians living on or near reservations have access to ambulatory, emergency, and secondary medical care at the IHS facilities. For referrals, (some secondary and most tertiary care) and some emergencies, the Indians on or near the reservations are able to use non-IHS facilities. For such referrals, IHS approves the admission and then funds the services through contractual arrangements.

INPATIENT CARE

According to IHS statistics, in 1976, there were 106,461 American Indian hospital admissions into IHS and contract facilities. About 72 percent of these admissions were into IHS hospitals.

The hospital utilization rate for IHS plus contract facilities for admissions of Indian patients has been relatively constant since 1958, with a range from 195 per 1,000 persons (in 1961) to 227 per 1,000 persons (in 1964), and a median of 212. In 1976, the utilization rate of 198 per 1,000 persons was somewhat above the estimated rate of 165 for the total U.S. population. 5/

OUTPATIENT CARE

According to IHS statistics, there were approximately 2,750,000 outpatient medical visits in 1976 to various IHS facilities, including hospitals and field health clinics. The utilization rate of 5.1 visits per person has increased significantly from the level of 3.2 visits in 1966. The current level is somewhat above the total U.S. population average of 4.1 visits (including visits to physician offices, hospital outpatient clinics, emergency room and homes visits).

While aware of the over 100,000 annual hospital admissions, and over 2.7 million ambulatory care visits annually, Indian participants and consultants during the conduct of the study strongly emphasized their impression that there remains a large number of American Indians with major medical care needs which are not being adequately addressed.

Indian Consumer Perceptions of Health Care Needs

The number of published reports concerning Indian consumer attitudes regarding health needs is limited. In a recently reported study of perceptions of Indian health care needs, "95 percent of the problems identified by the consumer centered around disease states, alcoholism, environmental problems, and transportation.... The largest proportion of responses (53 percent) dealt with specific disease states, upper respiratory infections, diarrhea, flu, and impetigo." 6/ This listing of problems was in sharp contrast to that of the IHS staff (both non-Indian and Indian), in which disease states were not listed as a significant problem.

For many reservation Indians, transportation to central medical facilities remains a major impediment to medical care. Based upon a survey of Indian patients seeking ambulatory care, inadequate means of transportation, along with long transit times, were considered as deterrents to adequate Indian health care. 7/

A study of behavior, attitudes and preferences of urban Indians toward health needs and medical care showed that over 90 percent of those participating in the study responded positively to a question regarding potential attendance at clinics with many Indians on the staff. One conclusion of the study was that efforts to solve social problems of Indians, such as education and housing, must be coordinated with efforts to meet Indian health care needs.

In addition, it was concluded that "More Indians should be involved in controlling their own programs, and an Indian health center could be the focal point for coordinating all programs attempting to raise the standard of living and to improve the economical and social condition of American Indians." 8/

A study of attitudes of reservation Indians toward available medical care revealed that traditional Indian medicine plays an important role in the lives of Indians. 9/ In addition, almost all Indians interviewed complained about the long wait in order to be seen in the outpatient clinic. The use of traditional Indian medicine by urban Indians was highlighted in Chapter II.

In a study of health care expectations, comprised of over 270 Indian respondents, Indians "...were found to have more complaints about the manner in which they received care than its lack of eventual cure.... Difficulties with health services focused on prolonged waiting times, misplaced records, shortages of staff, and inadequate interpretation." 10/

In concluding this section on Indian consumer perceptions of health needs, it should be stressed that, given the distinct cultures of Indian consumers and current physician providers, planning for future physician needs for Indian peoples must include active and extensive participation by the Indian people themselves. As noted in Chapter I, the study upon which this Report to Congress is based involved consultation with over 100 Indians from more than 50 American Indian organizations and tribes nationwide. For the most part, their input during the study concerning perceived Indian health care needs supported and accentuated the findings from the literature cited in this Report to Congress.

Indian Participation in Health Care Programs

The IHS has long recognized the need to involve Indian health personnel in providing health care to the Indian people, and has offered numerous health occupation training programs toward this end. Since 1955, more than 6,100 American Indians have received training as allied health professionals. In addition, over 4,900 American Indians have been provided training opportunities for health management positions and other aspects of the health care system. 11/

Indian community health workers are an integral component of any long-range plan "... to build competency in fighting health problems into the community structure itself." 12/ As a result of Congressional interest and joint planning of tribal representatives and IHS staff, training programs for community health representatives (CHR) were initiated in 1968. Since that time, more than 2,000 have been enrolled in the three-week basic CHR course to provide basic knowledge and skills in areas of health and community development.

> "From the standpoint of tribal acceptance, the training course for community health representatives (CHR) has been particularly successful. Employees for the local CHR programs are selected and hired directly by the tribes and trained by the IHS....
>
> Within the United States, no program for community health workers can match the CHR program in size or scope of responsibility." 13/

The community health representatives provide an important liaison between community residents and IHS staff. In addition, community health representatives for off-reservation Indians have received State financing in a few States. 14/

Tribal initiatives over the past decade have yielded a network of Indian health boards throughout the country which provide a mechanism for Indians to assume responsibility for establishing health priorities, policies, and program operations. Members of area health boards work closely with IHS field personnel and are represented on the National Indian Health Board which works directly with the Indian Health Service at the national level. Indian direct participation in health programs has grown steadily and is reflected in the extent to which IHS contract funds are being managed by Indians. In 1968, almost none of the IHS budget was being so managed; in 1977, about $60,000,000 was being managed by American Indians.

IHS has recognized and supported the role of new health practitioners, such as physician assistants and nurse practitioners, in the delivery of primary health care services to the IHS population.

> "The title of 'physician assistant' is a generic term and refers to a health professional, qualified by academic and clinical training, who performs tasks ordinarily reserved for a physician and who works under the direction, supervision, and responsibility of a qualified licensed physician to extend the physician's capabilities in the diagnostic and therapeutic management of patients. To date, there are approximately 60 programs training physician assistants who are also recognized by the title of Clinical Associate, Child Health Associate, Community Health Medic...." 15/

Twenty-two physician assistants are currently in training at the Community Health Medic Program in Gallup, New Mexico. The New Mexico CHM Program, established in 1971, has 55 graduates, and the Community Health Medic Program in Phoenix, Arizona, has graduated a total of 50 CHMs. 16/ Portions of the CHM program are conducted at the IHS Training Center in Tucson, Arizona.

> "The CHM concept resulted from the need to overcome the current (IHS) health professional manpower shortage, the recognition of the fact that the existing system for meeting these needs is inadequate, and the decision to initiate corrective action by establishing a new health worker position." 17/

The published entrance requirements of the New Mexico Community Health Medic Program highlights the objective of training "...general practice physician assistants for service in outpatient and field clinics of Indian communities.... Prospective students must have a high school diploma, show evidence of tribal affiliation or endorsement, and have three years experience and education in a health-related field." 18/

IHS has demonstrated an innovative capability in approaching its medical manpower problems by the development and support of community health medic training programs. As documented during the legislative deliberations preceding enactment of the Indian Health Care Improvement Act, there is an awareness of the benefits of increased utilization of CHMs within IHS as well as the limitations of this approach:

> ...the CHM's work is an integral part of the health care delivery team, relieving the physician of many tasks which can be accomplished equally as well by one who has less training. In addition, the CHMs provide assistance to communities to organize and attack underlying causes of health problems. A preliminary analysis of the effect of this activity indicates that the capability of physicians to render health care services has been greatly extended. While such activities tend to increase efficiency, they obviously do not eliminate the need for physicians, especially in view of the increasing Indian population being served along with increased use of services. 19/

Barriers to Health Care

A functioning health delivery system must adapt to the needs of the population. Barriers to this system--whether cultural, political, social or economic--act as major deterrents to this continuous process of change and adaptation.

Major barriers to Indian health care delivery are readily identifiable. A number of such barriers will be presented individually in the discussion which follows.

LEVEL OF AUTHORIZED POSITIONS FOR IHS HEALTH PROFESSIONALS

For the 1976-77 year, as noted earlier in Chapter III, IHS had a total of 522 physicians and 1,404 nurses to cover a service population of 538,000 Indians. This level provides only 1 physician for every 1,031 persons (as opposed to 1 to 603 for the total U.S. population); differences of a similar magnitude also exist for registered nurses. Even the immediate achievement by IHS of a 1 to 800 ratio for physicians would require a 28 percent increase in the number of positions. Furthermore, should the service population grow by 3 percent per year (as it already has over the last five years), the size of the IHS service population will be 626,000 persons by 1981.

The IHS projected need of 653 physicians by 1981, assuming no vacancies, will provide for a ratio of 959 persons per physician. The bulk of the increase in projected physician need is designed to meet projected population increases rather than to significantly improve the general level of care. With the existing programs geared to a level of understated needs, it appears that a series of new and/or expanded existing programs will be required. In particular, the achievement of a 1 to 800 ratio by 1981 for the IHS service population would require an IHS staff of 782 physicians, 20 percent above the projected figure of 653 needed for 1981.

At the beginning of Chapter III (p. 36), one of the problems resulting from the increasing demands on the IHS health care delivery system was the need for additional resources to adequately address currently identified Indian health care problems. As defined by IHS, "unmet needs" include two key elements:

> "(1) That need which exists to bring the quality of health care, based on current levels of services, up to acceptable standards; and
>
> (2) That need which exists as a result of the backlog of service needs." 20/

Based upon staffing criteria, IHS has estimated:

> "...that its annual budget appropriation allows it to meet less than two-thirds of its service population health care needs. A study of the IHS unmet needs in 1975 suggests that these findings are conservative. Thus, the need for an additional 4,155 positions, (across all categories, including physicians) as determined by this study may not fully reflect program requirements." 21/

Concerns regarding the allocation of resources for Indian health also have come from outside IHS:

> "Indian health care is inadequate because it is inadequately funded." 22/

Given additional resources, there is evidence that increased IHS staffing could be achieved. In particular, recent vacancy rates have been quite low for physicians (9 percent), dentists (2 percent) and the registered nurses (11 percent), indicating that full occupancy of an increased level of authorized positions is generally attainable.

ABSENCE OF RESERVATION INDIANS TRAINED AS PHYSICIANS

The single group that would be expected to provide the largest pool of physicians for health care on the reservations would be the Indians from the reservations. Specifically, this group could be seen as (a) having the highest level of interest and commitment in serving on the reservations, (b) possessing the desirable level of knowledge and sensitivity to the Indian culture and (c) having a minimum level of environmental difficulties in adapting to the reservation as compared to other groups.

However, the absence of Indian physicians from reservations is most significant. 23/ According to the American Association of Indian Physicians (AAIP), in 1976 there were only 79 American Indian physicians in the U.S. Furthermore, in a survey of these physicians, only 3 of the 61 respondents reported reservation backgrounds as original domiciles.

OVERALL SHORTAGE OF AMERICAN INDIANS TRAINED AS PHYSICIANS

The general shortage of American Indian physicians (including urban, rural and reservation backgrounds) also impacts on the capability to attract Indian physicians into IHS careers. The magnitude of this shortage is highlighted by the fact that the ratio of the aggregate of the 79 American Indian physicians to the IHS service population is still almost 19 times smaller than the physician-to-population ratio for the total U.S. population.

As a result, IHS has had to rely on the recruitment of non-Indians to fill physician staff positions. With only five Indian physicians in IHS, American Indians represent less than one percent of the current staff of IHS physicians. This marked disparity for Indian physicians is highlighted by Chart 3.

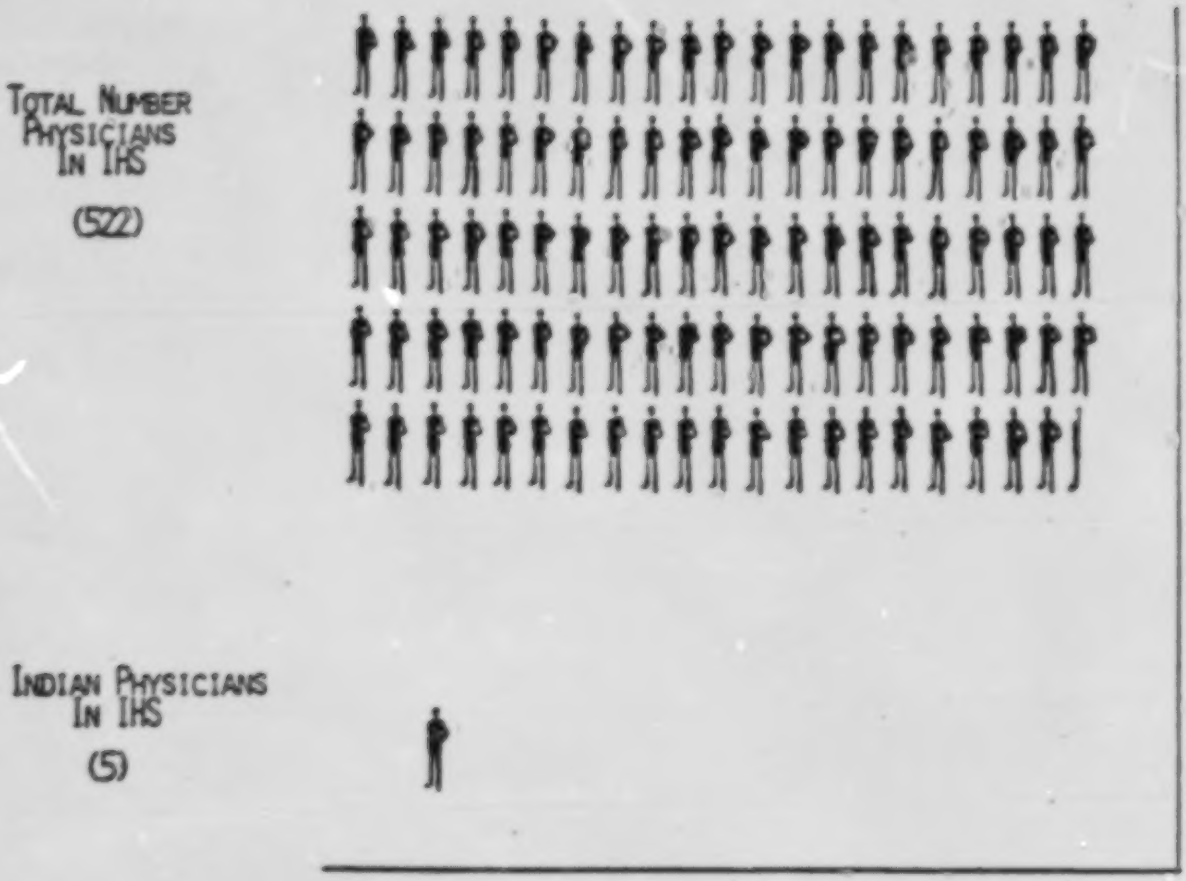
For registered nurses, the IHS track record regarding Indian representation is much better than for its physician's staff. In 1976, out of a total of 1,404 registered nurses within IHS, 232 (or approximately 17 percent) were American Indians.

As noted previously in Chapter III, IHS has conducted multiple programs to increase Indian participation in IHS health care efforts. It is estimated by IHS that at least 50 percent of the total staff currently is comprised of American Indians. 24/ Nonetheless, as was documented during legislative deliberations prior to enactment of the Indian Health Care Improvement Act, Indians have occupied primarily support staff positions:

> "Although 52 percent of the 7,430 IHS employees, as of April 1973, were Indians, only 4.6 percent were at the GS 13-15 or equivalent commissioned officer level...the overwhelming majority of the 3,858 Indian employees then in the IHS were to be found in the GS and Wage Board levels." 25/

Chart 3

TOTAL NUMBER IHS PHYSICIANS CONTRASTED TO THE NUMBER OF INDIAN PHYSICIANS IN IHS



= EACH SYMBOL REPRESENTS 5 PHYSICIANS

SOURCE: IHS, 1977

As illustrated in Chart 3, the almost total absence of Indian physicians is especially acute.

During legislative deliberations regarding P.L. 94-437, this almost total absence was noted:

> "...all observors agree that, if the Indian Health Service is to succeed in meeting its manpower needs, it must attract Indian people to its staff. In 1974, the IHS, out of 500 doctors, had only 3 Indian physicians." 26/

In addition to the requisite leadership role of Indian physicians in the delivery of medical services to the IHS service population, there are other critical roles, such as effectively bridging cultures and providing a broader range of role models for Indian youth, which Indian physicians might best fulfill as compared to Indians in support positions.

> "Another important concern for effective medical service is the marginal position held by the ... (Indian) IHS employee who must bridge both cultures. His acceptance by both groups (i.e., Indian and non-Indian) and the stresses this may produce are crucial to his ability to function adequately and efficiently." 27/

CULTURAL DIFFERENCES BETWEEN THE AMERICAN INDIAN POPULATION AND THE NON-INDIAN HEALTH PROFESSIONALS

The Indians frequently cite cultural differences between the American Indian population and the non-Indian IHS professionals as a barrier to meeting the health care needs of the American Indians. The non-Indian health professionals, in particular, often do not understand Indian culture and its impact on health care delivery. 28/ The intimacy of cultural heritage and medicine is often overlooked by the non-Indian health professionals. Also, these professionals often neglect the role of traditional medicine in the American Indian community. "It is uncertain how many Native Americans adhere to traditional practices, but it is known that in the majority of cases where there are communities of Indians, there are also native healers." 29/

Not only are the cultures different but the Indian and non-Indian approaches to disease are often based upon different sets of causal assumptions. Furthermore, non-Indian medicine fails to provide the close support and attention that traditional Indian treatment provides, and may be perceived by Indians as alienating the patient from his family, his land, his culture, and all other sources from which he draws strength.

> "It is difficult for the Indian to comprehend why the Anglo doctor will treat signs and symptoms without attention to cause. In many instances, the Indian medicine man will treat an entire family while treating the ill individual. In Anglo-Western medicine, the total being and his family are often ignored in the course of treatment." 30/

Often, to many patients, especially the elderly, "hospitalization is not seen as a step toward cure but as the final step to which the doctor resorts when things have passed beyond his power." 31/

The historical importance, current role and continued need for traditional Indian medicine must be recognized. "Native-American healing systems have opened more frontiers in Western scientific medicine than any other non-Western healing system, past or present." 33/

Public Health Service support has been provided for a demonstration project involving training and education of traditional medicine men. 34/ Indeed, within the Indian Health Care Improvement Act, authority has been provided by Congress under section 201 for the "training of traditional Indian practitioners in mental health." This appreciation of the need for support of traditional medicine is especially important for areas of Indian mental health, as well as physical well-being:

> "...an active mental health consultation program can be developed with a rural, isolated Indian community. Such a program can provide significant input into the total mental health effort of such a community.... Further, the development of mental health services must be developed within the political, social, geographical, and economic parameters of the (Indian) community, rather than the application of a stock model of mental health services." 35/

In closing this section on cultural differences between the Indians and non-Indian medical care providers, it is important to note that many non-Indian providers today are striving to become more knowledgeable in the Indian cultural heritage including traditional Indian medicine:

> "We have found that the hospital is a place, an attitude, a philosophy.... Our counterparts, the...medicine men, regard us with affection and respect, and the feeling is mutual." 36/

MISUNDERSTANDING OF ELIGIBILITY OF ACCESS TO PUBLIC HEALTH CARE FACILITIES

It is understood that a significant number of Indians are either denied access to public facilities or are, themselves, not fully aware of their eligibility. 32/ Denial of access has often been attributed to such factors as misunderstanding regarding Medicare and Medicaid eligibility as well as lack of personal funds for health care.

OVERBURDENING OF IHS MEDICAL STAFF

The significant shortages in the number of health professionals has resulted in an overburdening of work for existing IHS staff. In turn, a cyclical effect takes place whereby, due to the extreme shortage, many of the health professionals become overworked in terms of patient load and hours of service. Eventually, many of these health professionals choose to leave the program.

TERMINATION OF THE "DOCTOR DRAFT" AS A DEPENDABLE SOURCE OF IHS PHYSICIAN PROVIDERS

The elimination of the "doctor draft" in June 1973, ended what had been a dependable source of physician manpower for IHS. While the draft was in existence, physicians, upon completion of medical school, could fulfill their Selective Service obligation by two years of service in the IHS (or other units of the Public Health Service) in lieu of the military. The alternative of serving within IHS resulted in the number of IHS applicants generally exceeding the number of available funded positions (though the number of funded positions was still significantly below the number required to fully meet the physician manpower needs of the Indians). The dramatic reduction in physician applications to the IHS associated with the termination of the draft is demonstrated in Table 12. 37/

Recruitment and Retention

A study of multiple variables involved in the recruitment of physicians for the Indian Health Service concluded that it is difficult "to define, measure, rank and identify the characteristics of physicians who are amenable to recruitment into the IHS." The most persuasive influence appeared to come from personal contacts with persons in IHS who have familiarity with and personal experience in serving in the program. IHS has estimated that the cost of recruiting each physician, on the average, is at least five thousand dollars. 38/

It is estimated that only 20 percent of IHS physicians are career-based which, in turn, helps to explain the existence of an annual turnover rate of about 27 percent. The impact of this turnover of over 50 percent every two years is most significant to the delivery of health care services. Not only does it tend to perpetuate an existing manpower shortage but it contributes directly to problems of continuity of care between Indian patients and IHS physicians.

Table 12

Trends in Annual Volume of Physician Applicants For IHS Vacancies[a]

Fiscal Year [c]	Number of Applicants[b]
1971	700
1972	500
1973	300
1974	100

Source: Hostetter, C. L., and Felsen, J. D. Multiple variable motivators involved in the recruitment of physicians for the Indian Health Service. Public Health Reports, 90(4):319-324, 1975.

a/ Approximately 170-200 physician vacancies occurred each year, in large part, as a result of physicians fulfilling their two-year service obligation and departing from IHS.

b/ Estimated number on file 6 to 8 months before date of call to duty.

c/ The Draft officially ended June, 1973.

A number of reasons are generally cited for the physician retention problems including:

- DIFFICULT WORKING CONDITIONS. In addition to the staff shortages and resultant overburdening, many of the IHS hospitals consist of obsolete facilities with inadequate equipment and support staff.

- DIFFICULT LIVING CONDITIONS. This problem was recently summarized by the Director of IHS. "The majority of Indian Health Service facilities are located in remote and isolated regions of the United States where it is not uncommon to drive 50 miles to shop in a small town supermarket. Recreation facilities to which the majority of the staff who come from larger population areas are accustomed, such as theatre, civic and social events, and other organized recreation, are almost nonexistent. The educational facilities available to the children of the hospital staff are sometimes less effective than those in larger metropolitan areas....Employees at remote, isolated locations do not have a selection of housing units because housing does not exist in significant numbers. The Indian Health Service employees themselves cannot have housing built because there is a limited opportunity for resale and the nonavailability of deeded land generally disqualifies them for any home financing programs. The only avenue open is to locate in a small non-Indian community of the Federal reservation and commute to their duty station." 39/

- LACK OF OTHER PHYSICIANS AND CONTINUING EDUCATION OPPORTUNITIES. This limits their ability to consult (and often share the work load) with other physicians, to pursue their specialty or to maintain or enhance their skills through a continuing education program.

- LACK OF HOSPITAL ACCREDITATION. The lack of accreditation in many of the IHS hospitals impacts on the capability of IHS to initially recruit its physician staff. In particular, physicians who are seeking board-certified accreditation can only accumulate time toward this in an accredited hospital.

Existing Medical Education Opportunities For American Indians

INDIAN ENROLLMENT IN SCHOOLS OF MEDICINE AND OSTEOPATHY

The significant weakness in meeting medical education needs of Indians is reflected in the very small number of American Indian physicians. As of 1976, there were only 79 Indian physicians nationwide.

Recent enrollment data on American Indian entry into existing medical schools do not provide much encouragement that the need for Indian physicians throughout the Nation will be adequately met by existing schools alone. As illustrated in Chart 4, first-year enrollments of American Indians over the last six years peaked in 1974-75 and have been on the decline since that time. 40/ The total first-year Indian enrollment in the more than 110 U.S. medical schools was only 71 in 1974-75, but has since declined to 43 as of 1976-77.

While total first-year enrollments (i.e., the sum of all U.S. medical schools) have been increasing over this same six-year period, there has been a definite leveling off in the rate of increase. This leveling off is illustrated by the upper curve on Chart 4.

As of 1976-77, Indian students were enrolled in approximately one-half of all U.S medical schools (63 of the 117 total medical schools). Owing to the cumulative effect of prior first-year enrollment increases from 1972-73 through 1974-75, the total Indian enrollment across all class-years was 186 in 1976-77.

Table 13 shows the extent to which American Indians and other underrepresented students are enrolled in U.S. medical schools. 41/ The 186 American Indian students enrolled across all class-years represent 0.32 percent of the total medical school enrollment for 1976-77.

In addition to Indian students presently enrolled in schools of medicine, 16 American Indian students in 1976-77 were enrolled in schools of osteopathic medicine. 42/

American Indian Total Enrollment In Schools of Osteopathic Medicine

Year	1974-75	1975-76	1976-77
Total Number	11	14	16

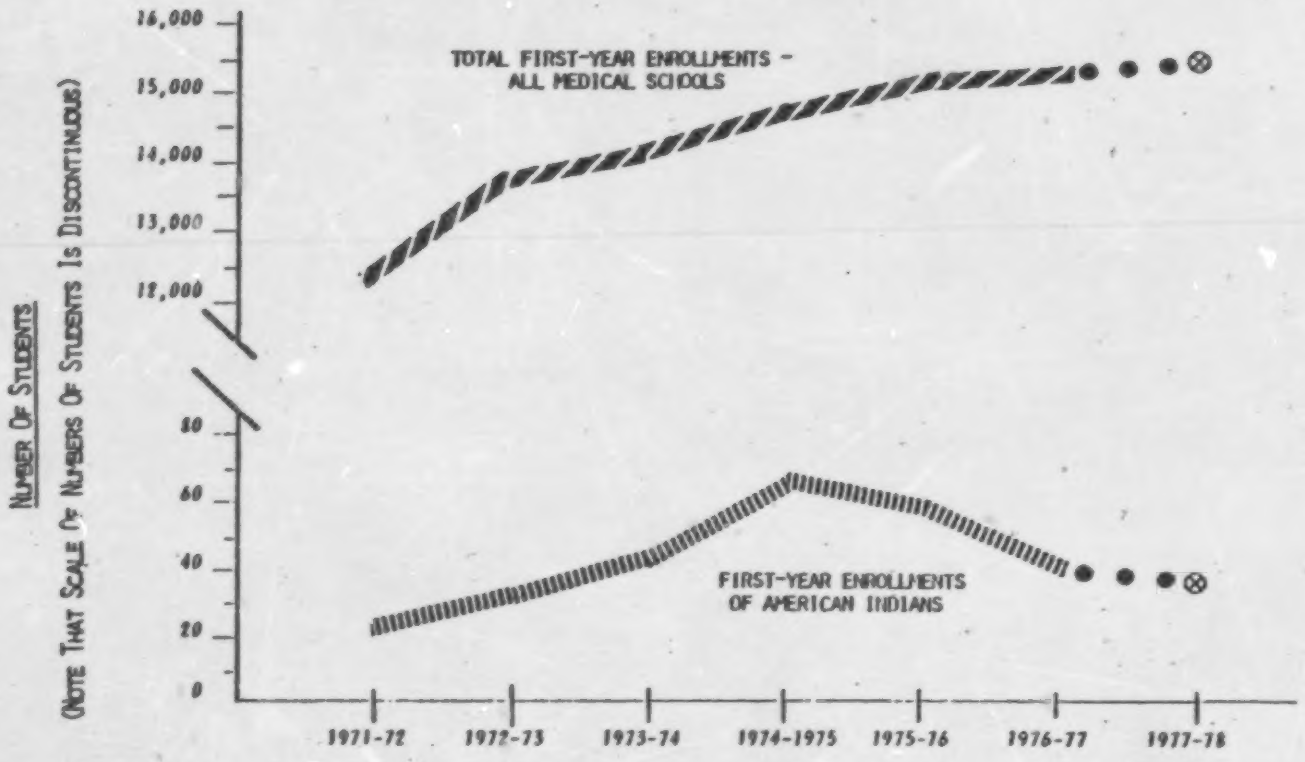
The number of first-year enrollments of American Indians in schools of osteopathy over the last several years has varied. Thus, it is too early to assess trends in the pattern of first-year Indian enrollments for schools of osteopathy.

In total, 202 American Indians are currently enrolled across all years in schools of medicine and colleges of osteopathic medicine.

Chart 5 shows recent trends for first-year enrollments of American Indians contrasted to other underrepresented groups for all schools of medicine. While first-year enrollments for all other underrepresented groups have fluctuated somewhat over recent years,

RECENT TRENDS IN FIRST-YEAR ENROLLMENT OF AMERICAN INDIANS AS CONTRASTED TO ALL FIRST-YEAR STUDENTS

CHART 4



SOURCE: ASSOCIATION OF AMERICAN MEDICAL COLLEGES

⊗ = PROJECTED 1977-78 DATA; AS OF 8/77, THERE WERE 42 OFFERS OF ACCEPTANCE TO AMERICAN INDIANS FOR THE CLASS OF 1977-78

Table 13

Total 1976-77 Enrollment of Students, by Ethnic Background, For All U.S. Medical Schools

Group a/	Number of Students b/	Percent of Total
White/Caucasian	50,701	87.8%
Black/Afro-American	3,517	6.1
Oriental/Asian-American	1,177	2.0
Mexican-American/Chicano	780	1.4
Puerto Rican (Mainland)	232	0.4
AMERICAN INDIAN	186	0.32
Cuban-American	165	0.3
Foreign Students	745	1.3
Other Underrepresented Groups	262	0.5
	57,765	100.0%

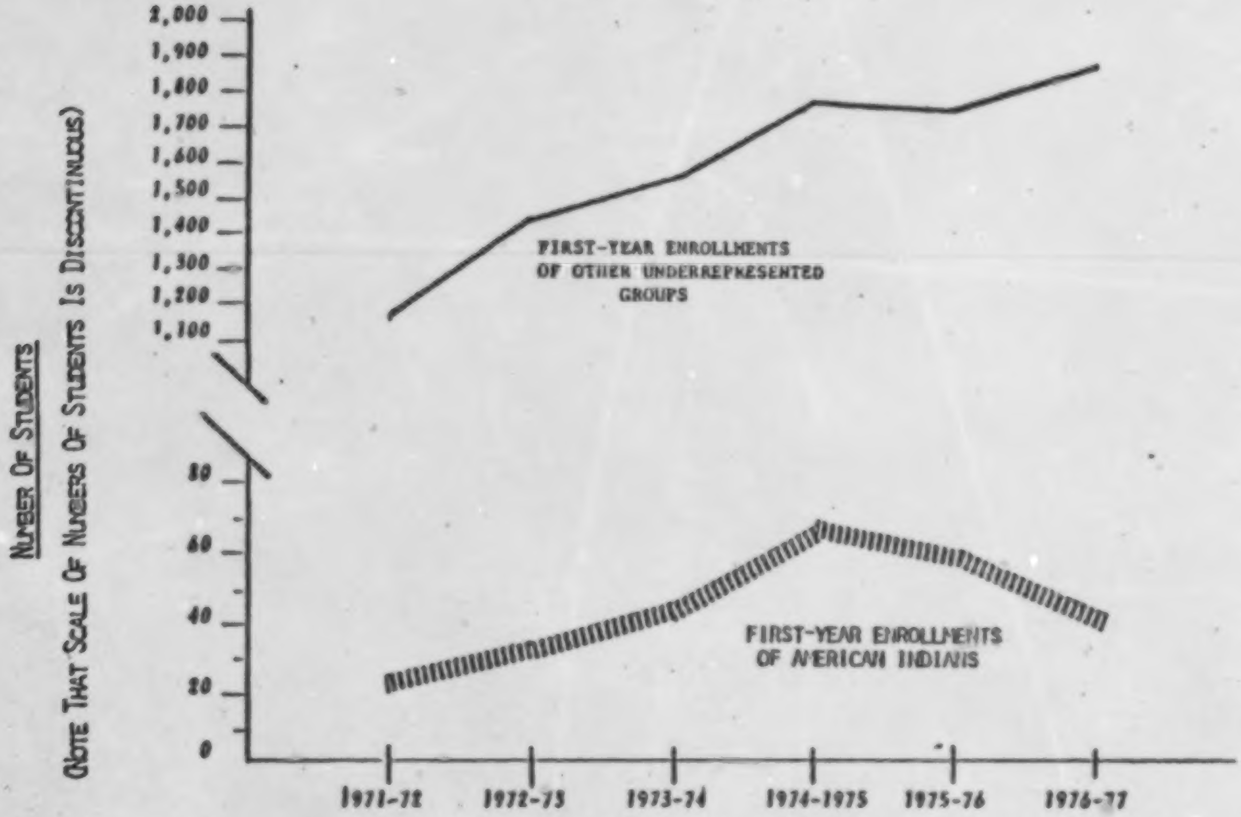
Source: Association of American Medical Colleges, November, 1976

a/ Ethnic background is based upon student self-identification.

b/ Number represents total enrollment, i.e., across all years.

CHART 5

Recent Trends In First-Year Enrollment Of American Indians As Contrasted To Other Underrepresented Groups*



*Other Underrepresented Groups Include: Blacks, Mexican-American, Puerto-Rican - Mainland, Oriental, Cuban, And Other
(Excludes American Indian Count)

Source: Association Of American Medical Colleges there has not been the significant decline evidenced by American Indian first-year enrollments. Specific reasons for the decline in first-year enrollments of American Indians are not precisely known. Possible factors contributing to this decline are examined and discussed in the section which follows.

AMERICAN INDIAN APPLICANTS TO MEDICAL SCHOOL

The decline in first-year enrollment of American Indians cannot be attributed to a decrease in the applicant pool. The applicant pool 43/ has been relatively constant over recent years.

American Indian Medical School Applicants

	1974-75	1975-76	1976-77
Total	134	132	128

A major factor may well be the tremendous crush of total applicants for medical school admission. The total annual applicant pool numbers over 42,000.

The percentage of the American Indian applicants in 1975-76 who were accepted to schools of medicine compared favorably with other under-represented groups. As shown in Table 14, 43.2 percent of American Indian applicants were accepted, as opposed to 36.3 percent of all applicants. What is most disturbing is that, based upon preliminary information for 1976-77 medical school applicants, the percent of accepted American Indian applicants has fallen markedly to 30.7 percent.

This figure of 30.7 percent for Indian students contrasts to the 37.4 percent acceptance rate for the total 1976-77 applicant pool.

An extremely difficult factor to assess is the overall level of qualifications of medical school applicants. Application for admission to a U.S. medical school involves a complex and lengthy process. Multiple factors and pieces of information concerning each applicant are assessed during the admissions process.

> "In spite of the complexity and imprecision of the criteria which are being predicted, there are certain pieces of information about applicants which have been found to make the admissions process a significantly better-than-chance procedure. That information is usually classified into two types: one concerning the intellectual

Table 14

Percent of Medical School Applicants Accepted, 1975-76

Group	Percent of Accepted Applicants
Mexican-American/Chicano	51.5%
AMERICAN INDIAN	43.2 a/
Puerto Rican (Mainland)	42.6
Black/Afro-American	41.3
White/Caucasian	37.2
Puerto Rican (Commonwealth)	36.2
Oriental/Asian-American	31.7
Cuban-American	31.7
All Applicants	36.3 b/

Source: Association of American Medical Colleges, Descriptive Study Of Medical School Applicants, 1975-76.

a/ For the 1976-77 entering class, the percent of accepted American Indian applicants has fallen to 30.7%. (Based upon preliminary information for 1976-77 medical school applicants provided by the Association of American Medical Colleges.)

b/ The acceptance rate for the total 1976-77 applicant pool is 37.4%. (Again, based upon preliminary information.)

> or cognitive characteristics of an applicant and the other concerning non-cognitive characteristics. Cognitive characteristics refer to both aptitude for intellectual work and the achievement of certain levels of knowledge. Non-cognitive characteristics, as the term implies, include everything other than intellectual traits and usually refer to biographic/demographic, personality and career motivation/interest factors. These, then, are the major domains into which information about applicants are usually classified in the admissions literature.
>
> For each applicant, information on their differing characteristics is obtained from a variety of sources or measures, the major classifications of which are: cognitive test scores, college transcripts, letters of recommendation, application forms, interviews and psychological tests." 44/

The most widely utilized cognitive test scores are those derived from the Medical College Admissions Test (MCAT), especially the MCAT Science subtest score. In the Medical College Admissions Test, Verbal Ability, Quantative Ability and General Information subtests have been noted to contain features associated with unequal weighting to the socioeconomic status of the applicant's family background; the MCAT Science subtest is apparently less affected by this bias. 45/

There has been a modest, but steady rise in the mean grade point average (GPA) and the mean MCAT science score for American Indian applicants who were not accepted by any school of medicine (Chart 6). It should be noted that among the 1976-77 applicant pool of Indians not accepted, there were 17 students with an MCAT Science score greater than 600. There were an additional 12 nonaccepted Indian applicants with an MCAT Science score above 550. 46/

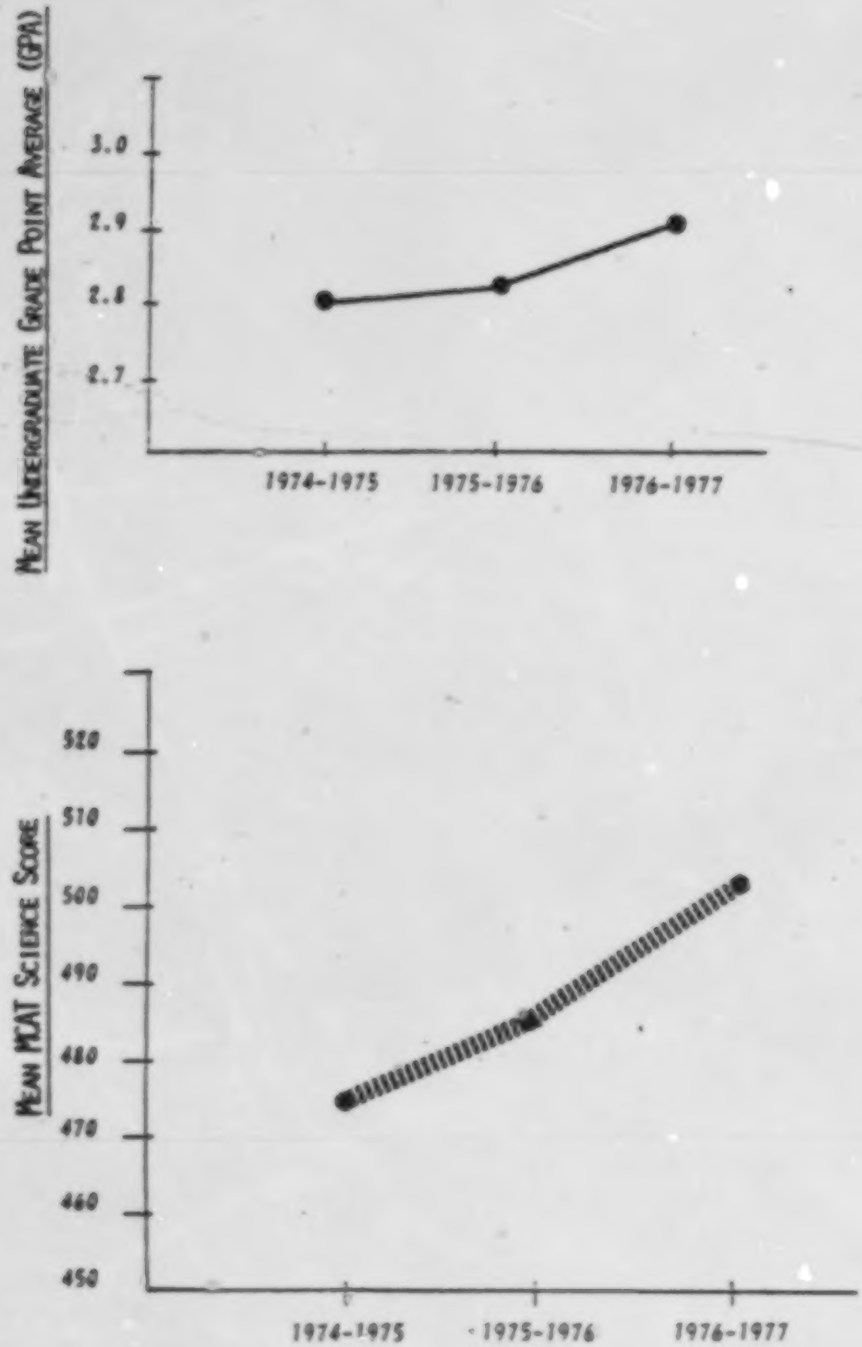
In regard to mean undergraduate grade-point average (mean GPA), among nonaccepted Indian applicants for 1976-77, there were 15 applicants with a mean GPA greater than or equal to 3.4. There were an additional 17 nonaccepted Indian applicants with a mean GPA above 3.0. 47/

An examination of the pool of American Indian applicants not accepted to medical school strongly suggests that academic qualifications can be ruled out as a possible reason for the decline in first-year enrollments. The data support the observation made by many American Indians during the conduct of the current study, that there is a larger pool of Indian students capable of completing a medical program than are currently being admitted to medical school.

In closing this section on Indian medical school applicants, it is appropriate to reiterate the fact that there is intense competition for entry into U.S. schools of medicine. The difficult situation confronting American Indian students can be better appreciated by looking at published data for entry into the 1974-75 class, where the first-year enrollment of American Indians was at its peak.

CHART 6

AMERICAN INDIAN APPLICANTS NOT ACCEPTED TO SCHOOLS OF MEDICINE: RECENT TRENDS IN MEAN UNDERGRADUATE GPA AND MEAN MCAT SCIENCE SCORES



SOURCE: ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Of the 99 schools of medicine for which data were available 48/, only 43 indicated that first-year positions had been offered to an American Indian applicant(s). Of the remaining 56 schools, there were only 12 schools where no American Indian applicants had applied. Thus, there were 44 schools of medicine which rejected any and all Indian applicants for entry into their respective schools.

Of these 44 schools rejecting all Indian applicants, 23 schools received applications from five or more Indian students. There were seven schools receiving applications from at least 10 Indian students, with one school receiving applications from 24 Indian students with no offers of acceptance. These selected data on application outcomes for 1974-75 highlight the difficulties facing Indian students wishing to pursue a career in medicine.

MEDICAL SCHOOL STUDENT RETENTION

The percentage of American Indian students staying in medical school is similar to that of other underrepresented groups. In comparison to the total group admitted in 1973-74, 89 percent of the American Indian students were still in medical school as of June 1976, as were 97 percent for all other students. At the same time, a lower proportion of Indians compared to other minority students had to repeat their academic year. In 1975-76, 5.7 percent of the American Indian students were repeating the year as compared with 8.2 percent for other underrepresented groups. Although precise reasons for Indian dropouts from medical school are not known, problems related to cultural adjustment may be a contributing factor. Extended separation from families and Indian communities may be another contributing factor.

Barriers to Medical Careers

An ongoing study of career aspirations, conducted by the American Council on Education, has shown that American Indians are interested in careers in medicine. In the fall of 1974, over 540 American Indian freshmen college and university students (first-time and full-time enrolled) named medicine as their probable future occupation. This represents a 440 percent increase between 1966 and 1974. 49/

In spite of the above noted gains, a number of institutional and individual barriers continue to deter American Indians from seeking careers as health professionals. Furthermore, some of these same barriers probably contribute directly to the high attrition rate noted in Chapter II for American Indians in undergraduate and collegiate programs.

LACK OF ORIENTATION TOWARD MEDICAL CAREERS

- Precollege educational programs often do not provide an orientation for the health professions. 50/ Curricula often do not include advanced science and mathematics courses, and facilities (especially laboratories and libraries) are often inadequate to support instruction.

INEFFECTIVE CAREER COUNSELING TOWARD HEALTH PROFESSIONS

- American Indian students often receive ineffective career counseling toward health professional careers. 51/ Furthermore, the counseling that is received is often obtained too late in their educational development for them to pursue such careers.

ESPECIALLY CLOSE TIES TO HOME

- Especially close ties to home, a personal characteristic of most Indians, deters American Indian youth from going to college, in many instances. Associated with this is the limited number of undergraduate colleges and universities in or near American Indian areas and the even smaller number of health professional schools in or near these areas.

COMPETITION FROM OTHER PROFESSIONS

- Competition from other professions in recruiting talented American Indian students has been substantial. Educational institutions and law schools have intensified their recruitment efforts in the last several years.

Concluding Observations

Caring for the health of Indians requires a deep understanding of the interrelationship between medical care and Indian cultures and ways of life.

At present, there is only a very limited number of Indian physicians to serve the over one million American Indians in the U.S.A.

It has been demonstrated that an adequate pool of potentially acceptable Indian matriculants exists among the nonaccepted pool of American Indian applicants to U.S. medical schools. Both MCAT science scores and undergraduate grade point averages underscore the potential for additional American Indians to pursue careers in medicine.

CHAPTER III

FOOTNOTES

1/ The IHS service population estimate represents the number of American Indians in designated IHS service units in 354 counties across 25 states.

2/ Computation made utilizing IHS budget data for fiscal year 1977. "Direct care," for purposes of this computation, represents the sum of hospital and ambulatory care budget lines. (See Chapter II, Table 11.)

3/ Statistics on the American Indians are based on IHS estimates of service population and the actual number of health professionals employed by IHS as of 9/30/76. Statistics on the U.S. population are based on the 1976 estimates of total population by the Bureau of the Census, and the number of active physicians and nurses in the U.S. by the Department of Health, Education, and Welfare. Beyond physicians and nurses, IHS would need 49 additional dentists to bring the dentist-to-IHS-service population ratio to a level comparable to the total U.S. population.

4/ Based upon statements by the Director, IHS, during Congressional Hearings, 1976.

5/ Statistics on the American Indians are based on IHS estimates for 1976. Statistics on the U.S. population are 1975 estimates from the National Center for Health Statistics, DHEW.

6/ Kane, R. L., and McConatha, P.D. The men in the middle: a dilemma of minority health workers. Medical Care, 13(9):736-743, 1975.

7/ Baggian, D. A., and Kimball, C. P. The problem of transportation to medical facilities on an Indian reservation. Medical Care, 11(6):501-508, 1973.

8/ De Geyndt, W. Health behavior and health needs of urban Indians in Minneapolis. Health Services Reports, 88(4):360-366, 1973.

9/ Bozof, R. P. Some Navajo attitudes toward available medical care. American Journal of Public Health, 62(12):1620-1624, 1972.

10/ Kane, R., and Kane, R. Determination of health care expectations among Navajo consumers: Consumers in a Federal care system. Medical Care, 10(5):421-429, 1972.

11/ Indian Health Service. "To the First Americans." Washington, D.C.: DHEW publication number (HSA)77-1000. 1976, p. 13.

12/ Brodt, W. Implications for training curriculums from a task inventory survey of Indian community health representatives. Public Health Reports, 90(6):552-560.

13/ Ibid, p. 522.

14/ Schneiter, H. E. Michigan Indians need much in health care. Michigan Medicine, 75(12):588-589, 1976.

15/ Association of Physician Assistant Programs (APAP). "National New Health Practitioner Program Profile: 1977-79." Arlington, Va.:APAP. 1976, p. 1.

16/ Personal communication, IHS staff, August, 1977. As of 1977-78, the CHM program will be based solely at Gallup, New Mexico, rather than two separately-based programs in Phoenix and Gallup.

17/ Indian Health Service. "Community Health Medic of the Indian Health Service." Washington, D.C.: IHS/U.S.PHS. 1971, p. 8.

18/ Op. cit., "National New Health Practitioner Program Profile: 1977-79," p. 75.

19/ Senate Report No. 94-133, p. 47.

20/ IHS. "Forward Plan: FY 1978-82." October, 1976, p. 6.

21/ Ibid.

22/ Mortimer, E. A. Indian health: an unmet problem. Pediatrics, 51(6): 1065 - 1066, 1973.

23/ It has been advanced by the American Indian membership of the Feasibility Study Group that major deterrents to the pursuit of a career in medicine include the apparent inflexibility in the length of the medical education program and the absence of education and training in traditional Indian medicine. Such deterrents would be especially significant for Indian students from reservations.

24/ Personal communication, IHS staff, August, 1977. Exact figures for 1977 were unavailable.

25/ Op. cit., Senate Report No. 94-133, p. 29.

26/ Ibid, p. 55.

27/ Op. cit., Kane and McConatha, p. 737.

28/ Walker, F. Bridging a cultural gap for better patient care. Military Medicine, 139:26-29, 1974.

29/ Primeaux, M. H. American Indian health care practices: A cross-cultural perspective. Nursing Clinics of North America, 12(1):55-65, 1977.

30/ Ibid, p. 61.

31/ Guidotti, T. L. Health care for a rural minority. Lessons from the Modoc Indian country in California. California Medicine, 118:98-104, 1973.

32/ Op. cit., Senate Report No. 94-133, p. 128.

33/ Twaddle, A. C., and Hessler, R.M. A Sociology of Health. St. Louis: C. V. Mosby. 1977, p. 152.

34/ Bergman, R. L. A school for medicine men. American Journal of Psychiatry, 130:663-666, 1973.

35/ Kinzie, J. D., et al. Anatomy of psychiatric consultation to rural Indians. Community Mental Health Journal, 8(3):196-207, 1972.

36/ Mulligan, W. J. Western health care for southwest Indians. (Letter to the Editor) New England Journal of Medicine, 295:454, 1976

37/ Hostetter, C. L., and Felsen, J. D. Multiple variable motivators involved in the recruitment of physicians for the Indian Health Service. Public Health Reports, 90(4):319-324, 1975.

38/ Personal communication, IHS staff, August, 1977.

39/ Statement of Director, IHS, before Congressional Hearings, 1976.

40/ Source: AAMC. Data prior to 1976-77 were drawn from published sources. Data for 1976-77 and 1977-78 represent preliminary information.

41/ It must be stressed that the data cited for American Indian medical students represent student self-identification regarding ethnic background. As noted in Chapter II, within discussions of the demographic characteristics of American Indians, self-identification of ethnic background (based upon slight changes in survey instruments and over time) is susceptible to change.

The Public Health Service in the administration of the PH/NHSC Scholarship Program is acutely aware of problems in student self-identification regarding American Indian ethnic background. By way of illustration, for the current fiscal year (i.e., 1977), there were 7 entry level medical students whose PH/NHSC Scholarship application either directly indicated or strongly suggested American Indian ethnic background. Upon examination of these 7 applications by IHS staff, only 2 of the 7 were evaluated as having "documentation (which) clearly supports eligibility for

CHAPTER III

FOOTNOTES - continued

42/ Personal communication, staff of the Association of American Colleges of Osteopathic Medicine, August, 1977.

43/ Does not include American Indian applicants to schools of osteopathy.

44/ "The Medical School Admissions Process. A Review of the Literature. 1955-76." Final Report: Contract No. 231-76-0011. p. 46.

45/ Gough, H. G., and Ducker, D. G. Social class in relation to medical school performance and choice of specialty. Journal of Psychology, 96:31-43, 1977.

[illegible] Source: AAMC. Preliminary information for the 1976-77 medical school applicant pool.

47/ Ibid.

48/ AAMC. Minority Student Opportunities in United States Medical Schools, 1975-76. Washington, D.C.: AAMC. 1975.

49/ American Council on Education, "Freshmen Interested in the Health Professions," February 1977, Vol. 1. DHEW Publication No. (HRA) 77-43.

50/ Blue Spruce, Jr., G. Needed: Indian health professionals. Health Services Reports, 88 (8): 692-696, 1973.

51/ "The medical school admissions process produces tension and anxiety for even the most outstanding applicants. Unlike many of their white middle and upper-middle class competitors for places in the classes at the 114 U.S. medical schools, many minority candidates are handicapped at the outset in the admissions process by a lack of good counsel and advice." Op. cit., Minority Student Opportunities in United States Medical Schools, 1975-76, p. vii.

CHAPTER IV

MEETING THE NEEDS: FOUR APPROACHES

American Indian health care is considered by many to be at the crossroads. Over the next seven years, under the stimulus of the Indian Health Care Improvement Act and antecedent legislation, efforts to improve the health status of Indians will focus upon ways to alter the patterns of delivery of health care and the selection process of professionals providing that care.

In this chapter, four approaches are discussed in relation to the goal of expanding medical education opportunities for American Indians so that the abilities of Indian physicians to provide health care to the Indian people can be enhanced. An integral part of this goal is to structure the medical education experience in ways that will (1) adequately meet specific educational needs of Indian students, and (2) fully prepare these students for care provider roles for the Indian people.

These approaches are not discrete and mutually exclusive. Rather they are complementary and should be viewed as interrelated efforts toward meeting the need for medical educational opportunities for American Indians. A precedent has been set for establishing such programs by the over 100-year history of educational support given to the American Indians within their unique trust relationship with the Federal Government. 1/

The four complementary approaches are listed below:

1. Expand scholarship programs for American Indians.

2. Establish comprehensive precollege and premedical school programs for American Indians.

3. Allocate student places or expand capacity at existing medical schools solely to accommodate Indian students.

4. Establish a medical school for American Indians.

Expand Scholarship Programs For American Indians

The cost to the student of a medical education is high. In 1974-75, average medical student expenses exceeded $7,000 per year. 2/ For this same academic year, two-thirds (66.4 percent) of all medical students sampled had applied for financial aid. 3/ These figures highlight the financial burden which faces a student desiring entry into medical school.

This financial burden is especially acute for students from underrepresented groups, such as Ameriocan Indians. This is documented by the finding in the 1974-75 sample that over 95 percent of the medical students from underrepresented groups applied for financial aid. 4/ Evidence of the acute financial need of such students from underrepresented groups is corroborated by the receipt of aid by nearly 98 percent of those applying.

In passing the Indian Health Care Improvement Act within section 104 of Title I, Congress acknowledged the need for a scholarship program for American Indians. Subsequently, the legislative provisions of section 104 were incorporated into the Public Health Service Act as section 757. 5/ Section 757, which becomes effective October 1, 1977, outlines an Indian Health Scholarship Program "to provide physicians, osteopaths, dentists, veterinarians, nurses, optometrists, podiatrists, public health personnel, and allied health professionals to provide services to Indians." These scholarships shall be designated Indian Health Scholarships. By statute, priority is to be given to Indian applicants in determining scholarship awards.

During legislative deliberations involving P.L. 94-437, there was explicit concern raised regarding the need for substantial financial aid for Indian students:

> "...Existing programs cannot provide sufficient financial support to health professions students, particularly Indians who usually require more resources than non-Indians. A recent study by the Indian Medical Program, (i.e., Indians into Medicine: INMED) revealed that a number of Indian students either could not obtain any funding, though fully qualified, or had to obtain financial support from a number of different sources. In regard to the latter problem, which affects both Indian and non-Indian alike, the applicant must confront a maze of applications for various programs and considerable uncertainty.
> Under such conditions, any effort to meet manpower objectives is endangered simply because the existing system lacks the ability to effectively match resources with need." 6/

This scholarship program originally was one of five sections addressing Indian health manpower under Title I. For fiscal year 1978, $6 million has been appropriated to carry out all Title I programs. It is anticipated that $3.6 million will be available from funds appropriated for Title I programs to make Indian Health Scholarship awards during FY 1978.

Within the period of the development of this report final regulations had not yet been developed. Thus, final conditions for receipt of these scholarship awards, e.g., service obligation, could not be specified at that time. 7/

In concluding this specific discussion of the Indian Health Scholarship Program, it must be stressed that individual scholarships are in no way based upon financial need, but rather are contingent upon an awardee's willingness to incur future service obligation. Thus, it may be very difficult in the future to assess the impact of this specific scholarship program upon removing financial barriers to the pursuit of health careers by Indian students.

In addition to IHS efforts, the Public Health Service (PHS) has attempted to assist American Indians in meeting the high costs of a medical education. Financial assistance has been provided to American Indian students enrolled in schools of medicine and osteopathy via the Health Professions (HP) Student Loan and Scholarship Program. Table 15 lists the number of HP loans and scholarships awarded to Indian students from FY 1972 through FY 1975.

HP loans and scholarships are awarded on the basis of financial need. A financial need analysis is conducted each year a student receives HP loan and/or HP scholarship support. In 1974, there were 65 HP loans awarded to American Indian students enrolled in schools of medicine and osteopathy. During this same year, the average amount of HP loan support provided to all medical and osteopathic students receiving such assistance was approximately $1,325.

In addition to HP loan and scholarship support, American Indians have received PHS support under the Public Health and National Health Service Corps (PH/NHSC) Scholarship Program, under section 225 of the Public Health Service Act.

As of August 1, 1977, there were 58 American Indian allopathic and 5 osteopathic medical students who had received PHS support under the PH/NHSC Scholarship Program. Financial support under this scholarship program can be substantial. The average annual award is approximately $10,500. Again, for the PH/NHSC Scholarship Program, individual awards are not based upon financial need, but rather are contingent upon a recipient's willingness to incur a future service obligation.

A priority for American Indians in the awarding of PH/NHSC scholarships under section 225 authority has been proposed:

> "In recognition of the special needs of American Indian and Alaska Native populations for services provided by health care practitioners, particularly from providers who are themselves American Indians or Alaska Natives, the proposed regulations provide in §62.4(c) that eligible American Indian and Alaska Native applicants will be given priority in the selection of scholarship recipients." (Federal Register, Vol. 42, No. 127, p. 33777)

Table 15

Health Professions (HP) Student Loans and Scholarships Awarded to American Indian Students Enrolled in Schools of Medicine and Osteopathy Fiscal Years 1972-1975

Fiscal Year	Number of Loans a/	Number of Scholarships a/
1972	26	17
1973	37	24
1974b/	65	25
1975	49	16c/

Source: Student Assistance Branch, Office of Program Operations, BHM, HRA, August 1977.

a/ Awards to the schools are made on an annual basis. The schools, in turn, determine the financial need of individual student applicants. A single student may simultaneously receive both HP loan and HP scholarship support. A financial need analysis is conducted each year a student receives HP support. The number listed comprises continuations plus new.

b/ In FY 1974, the average amount of an HP loan for all medical and osteopathic students receiving such assistance was approximately $1,325; likewise, the average HP scholarship award was approximately $750.

c/ The HP Scholarship Program entered a phase-out period in FY 1975; beginning in FY 1975, funds have been provided only to support continuation awards.

"Using the number of 1975-76 enrolled medical students as a base, one of every four American Indians received (PH/NHSC) scholarships.... Students identifying themselves as American Indians also showed a preference for an IHS service commitment." 8/ At the time of the study, of the 43 American Indians with PH/NHSC scholarships, 35 preferred IHS over the Bureau of Medical Services and the National Health Service Corps for fulfillment of their service obligation.

In concluding this discussion of scholarship programs, it is important to reiterate that scholarship programs are not necessarily equivalent to programs addressing the financial needs of students. As noted in Chapter II, in 1975, the average per capita income for Indians living on Federal reservations was estimated to be just over $1,500. Clearly, American Indian students must have access to programs of financial assistance in order to pursue a medical education based upon the extremely limited economic resources of many potential applicants.

Finally programs of financial assistance (either service-conditional or based solely upon financial need) are essential in reducing existing financial barriers to the pursuit of medical careers by American Indians. Nonetheless, such programs of financial assistance, in the absence of any of the other complementary approaches to be described, will not remove other overriding and limiting barriers discussed at the end of Chapter III in meeting Indian medical educational needs.

Establishing Comprehensive Precollege and Premedical School Programs For American Indians

Precollege and premedical school education are fundamental for expansion of a qualified pool of Indian medical school applicants. Essential student skills involved in medical education arise from a lengthy process encompassing basic arithmetic and language training in elementary school, the preparatory education provided in high school, and undergraduate premedical training. However, the various institutional and individual barriers discussed at the end of Chapter III hinder the development of a larger pool of American Indian students who pursue a career in medicine.

A comprehensive precollege and premedical school program for American Indians that locates and provides educational opportunities to American Indian students who want to pursue health careers may overcome a number of these barriers. A meaningful ongoing program like this is Indians into Medicine (INMED), a program coordinated with the University of North Dakota that seeks to "train professional health personnel drawn from the Indian population who will provide health services that are acceptable to the Indian community." To introduce elementary students to health career opportunities, INMED developed a program geared to grade school children and presented it in Indian communities in INMED's five-state (North Dakota, South Dakota, Nebraska, Wyoming, and Montana) service area. To orient junior and senior high school students to medical careers, INMED developed a summer institute program that provides five weeks of concentrated instruction in sciences and mathematics. Furthermore, encouragement was given to participating students to select within their high school curricula those academic subjects considered prerequisites for entry into premedical programs at the university level.

The primary INMED effort is the coordination of a premedical and medical school program at the University of North Dakota under which American Indian applicants are screened for their awareness of Indian problems and their potential for and commitment to serving Indians on reservations or in rural areas. The University of North Dakota School of Medicine provides the final link in INMED's comprehensive precollege and premedical program. As of the academic year 1976-77, 10 American Indian students, primarily INMED participants, were enrolled at the University of North Dakota School of Medicine. 9/

Congress acknowledged the need for comprehensive programs, such as INMED, 10/ to help overcome the multiple barriers facing Indians seeking health careers. Section 102 of P.L. 94-437 is entitled the "Health Professions Recruitment Program for Indians." This section authorizes a grant program to assist in meeting the costs of:

> "(1) identifying Indians with a potential for education or training in the health professions and encouraging and assisting them (A) to enroll in schools of medicine, osteopathy, dentistry, veterinary medicine, optometry, podiatry, pharmacy, public health, nursing, or allied health professions; or (B), if they are not qualified to enroll in any such school, to undertake such post-secondary education or training as may be required to qualify them for enrollment;
>
> (2) publicizing existing sources of financial aid available to Indians enrolled in any school referred to in clause (1)(A) of this subsection or who are undertaking training necessary to qualify them to enroll in any such school; or
>
> (3) establishing other programs which the Secretary determines will enhance and facilitate the enrollment of Indians, and the subsequent pursuit and completion by them of courses of study, in any school referred to in clause (1)(A) of this subsection."

Furthermore, the legislation recognizes the long-term advantages of INMED-type efforts aimed at elementary and high school students and the need for student aid during their preprofessional education.

Section 103 of P.L. 94-437 authorizes a "Health Professions Preparatory Scholarship Program for Indians." Scholarship grants for preprofessional education are to be awarded to Indians who:

> "(1) have successfully completed their high school education or high school equivalency; and
>
> (2) have demonstrated the capability to successfully complete courses of study in schools of medicine, osteopathy, dentistry, veterinary medicine, optometry, podiatry, pharmacy, public health, nursing, or allied health professions."

During legislative deliberations involving Title I, the need for student financial aid for preprofessional studies was seen to be "a necessary link between recruitment and post-graduate health training." 11/

Comprehensive and intensive programs, such as INMED, most probably would lead to an expanded and more highly qualified pool of American Indian medical school applicants. 12/ As described in Chapter III, the intense competition for admission into schools of medicine and osteopathy remains a critical limiting factor. Thus, INMED-type efforts aiming at elementary and high school students as well as premedical undergraduates are necessary and appropriate long-term efforts, especially when viewed in conjunction with other complementary proposals to expanding medical educational opportunities for American Indians.

Allocate Student Places or [illegible]nd Capacity at Existing Medical Schools to Accommodate Indian Stu[illegible]

An allocation of student places solely for American Indians at existing medical schools could take either of two forms:

- A voluntary holding of spaces for American Indian applicants at one or more of the existing medical schools;
- A direct purchase by the Federal Government of places for American Indian applicants at one or more of the existing medical schools.

Direct purchase of places for Indians by the Federal Government would be a new arrangement for both parties. Under this arrangement, the Federal Government would give the school the full cost of each medical student's education. The appropriateness of a direct Federal purchase of places would be debatable, even within the context of the Federal Government's unique trust responsibility for the American Indians.

An apportionment of places or expansion of capacity in existing medical schools to accommodate Indian students could possibly assure the number of medical school positions for the training of American Indians. On the other hand, there would be major, perhaps insurmountable difficulties with this approach, as evidenced by the strong concerns raised by medical schools in regard to recent Federal involvement in apportionment of positions for returning U.S. citizens from schools abroad. Medical schools are not very likely to welcome such direct intervention by the Federal Government on behalf of any students, regardless of the manner in which the unique Federal trust responsibility to Indians is articulated.

Moreover, focusing efforts on guaranteed entry positions for American Indians at existing medical schools is not likely to achieve the desired outcome of fully preparing these students to provide care to Indian peoples.

> "Who becomes a physician and how well that person practices medicine by no means depends solely on modifications of admissions procedures.... For if only admission procedures and standards are modified without concomitant changes in medical education and the health care system in which students are eventually called upon to practice, one can count on little of positive consequence resulting from even major modifications of the selection system." 13/

Allocation would not construct a framework encouraging American Indian students to locate and remain in reservation and rural areas to practice medicine. In a recent study analyzing grant projects involving students from underrepresented groups, including American Indians, it was reported that:

> "The most influential factors guiding students' acceptance of admissions offers as judged by project directors were the sheer amount of financial aid available, the academic quality of the training program, and the perceived favorableness of the environment for minority and disadvantaged students." 14/

It would be easy to understand the potential skepticism of Indian students regarding the "favorableness of the environment" for American Indians at a medical school which previously had never enrolled a single Indian student.

Neither orientation toward Indian health care problems nor a direct link to Indian peoples through clinical facilities or other means would likely exist at such a school. Curricula at almost all existing medical schools provide little to no emphasis toward the unique problems and circumstances of Indians and their special medical care needs. Cultural isolation of the American Indian student would represent a major problem above and beyond the multiple stresses common to all medical students.

In addition, an approach involving guaranteed entry positions might indirectly negate the notable efforts of some schools in recruiting and enrolling Indian students. For example, 22 American Indian medical students are currently enrolled at the University of Oklahoma, 10 at the University of North Dakota, nine at the University of North Carolina, eight each at Stanford University and the University of Colorado.

It would be counterproductive if the efforts of schools such as those described would be placed in jeopardy by a coercive federally-sponsored approach, no matter how well intentioned.

In summary, while the concept of guaranteed positions for Indian students at existing medical schools may appear attractive at first, the long-term negative consequences appear to far outweigh the potential advantages.

Establish A Medical School For American Indians

None of the foregoing approaches either alone or in combination are adequate to match the role and the functions of an American Indian school of medicine in expanding medical education opportunities which adequately meet specific educational needs of Indian students as well as fully prepare these students for care provider roles for the Indian people.

An American Indian medical school provides a unique approach to meeting the medical care and medical education needs of the American Indians.

- It would involve the development and operation of a fully accredited institution that would provide medical education and training to American Indian students and other students who show evidence of tribal affiliation or endorsement. The conventional medical school curriculum could be combined with areas of study relevant to the American Indian cultures, including traditional Indian medicine. Such a curriculum would be highly compatible with the objective of educating physicians to serve as providers of primary care to Indian peoples.
- Students would have the opportunity to receive their clinical training in ambulatory settings, in hospitals and other facilities serving American Indian patients.

- Graduates of the medical school would be able to complement their training in current medical techniques while maintaining continuity with the cultural and traditional medical practices of the American Indians.

- An American Indian medical school would expand medical education opportunities for American Indians, especially those living on reservations and in rural areas, as well as urban areas.

- Such a school would attract skilled and knowledgeable medical professionals to teach and to provide care to Indian peoples.

- Available technological support for physicians (non-Indian and Indian) serving American Indians would be enhanced.

- The cultural barriers American Indian students face in adapting to the non-Indian medical school environment would be reduced markedly and a center within an Indian milieu (consistent with Indian self-determination) for discussion of and research on the issues surrounding American Indian health care would be established.

- Educational facilities training other Indian health professionals, (i.e., other than physicians), over the longer term, would benefit greatly by drawing upon the educational resources of such a school. In addition, knowledge and skills would be readily shared with all other entities with an American Indian focus—educational, research, and patient care.

- The principles of American Indian self-determination, including the Indians' integral role in the school's development and operation (by Pan-Indian 15/ participation), would be maintained and enhanced.

- An American Indian school of medicine would vigorously plan and develop educational experiences (such as preceptorships) in multiple ambulatory as well as hospital settings as essential and integral components of the education of Indian medical students. It is anticipated that ambulatory settings would be drawn nationwide from a wide diversity of Indian Communities.

Given the time required to build a medical school, provide four undergraduate years of medical education, and have students complete a minimum of three years of graduate education, it would be approximately 1987 before graduates who have completed requirements for board certification would be in practice.

However, during the planning stages of an American Indian school of medicine prior to 1980, 16/ intensive interactions would occur between medical school faculty and Indian communities. Thus, the contribution of an American Indian school of medicine to the seven-year Indian health care improvement program would begin almost immediately upon its establishment.

More importantly, when fully operational, such a school would have an enormous impact via the establishment and maintenance of educational linkages between Indian students, Indian communities and health facilities serving the Indian people. Thus, for all the reasons cited earlier, the impact of a medical school must be viewed in a context far broader than solely educating and training physicians.

POTENTIAL CONCERNS REGARDING ESTABLISHMENT OF NEW MEDICAL SCHOOLS

Increasingly over the last several years, concerns have been voiced regarding the need for the development of any new schools of medicine or osteopathy. Congressional concern on this topic is reflected by the very inclusion of Title VI of P.L. 94-437 — i.e., the mandate to conduct a study of the need for, and feasibility of, an American Indian School of Medicine.

The 1976 Report of the Carnegie Council on Policy Studies in Higher Education, entitled Progress and Problems in Medical and Dental Education 17/, highlighted issues regarding new medical schools. While specifically recommending only one new medical school on the eastern seabord, the Carnegie Council in an additional detailed recommendation noted that special consideration should be given to developing medical education programs that are designed to encourage individuals from underrepresented groups to train for the medical profession. Specifically, the Carnegie Council noted that a developing medical education program designed for American Indians "...merits special consideration as a way of attracting Native Americans, who have scarcely been represented at all in the medical profession, to undertake medical training." 18/

Examination of the future supply of American Indian physicians, and the contribution of an American Indian school of medicine to that supply, is an essential consideration in assessing the need for such a school.

Charts 7 and 8 provide such supply projections to the year 2010. The data bases utilized and the assumptions underlying these projections are listed separately following Charts 7 and 8.

These charts, utilizing very conservative Indian population estimates, illustrate that concern regarding a potential future oversupply of Indian physicians is unwarranted. In addition to increasing the supply of Indian providers to deliver care to all Indian peoples, including urban and rural, an American Indian school of medicine would contribute significantly to addressing the physician needs of Indians on or near reservations, as graphically depicted in Chart 8.

CHART 7

PROJECTED SUPPLY OF INDIAN PHYSICIANS
WITH AND WITHOUT AN AMERICAN INDIAN SCHOOL OF MEDICINE:
RATIOS OF TOTAL INDIAN PHYSICIANS
PER 100,000 INDIAN POPULATION NATIONWIDE

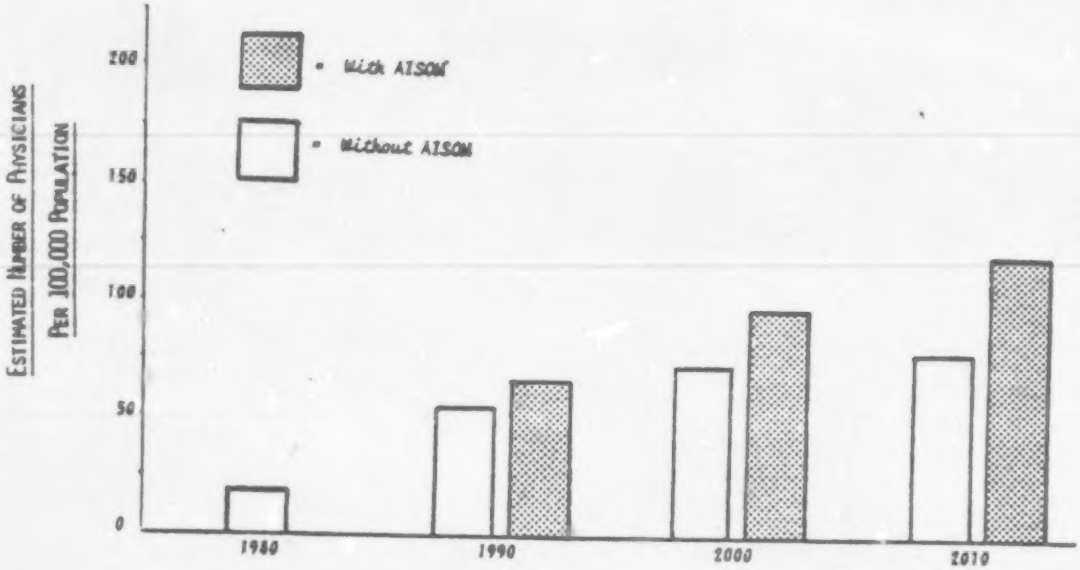
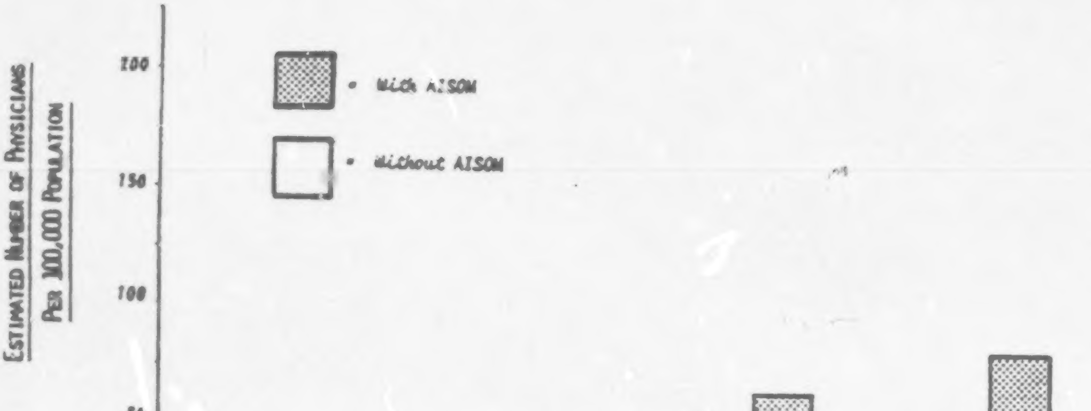


CHART 8

PROJECTED SUPPLY OF INDIAN PHYSICIANS
WITH AND WITHOUT AN AMERICAN INDIAN SCHOOL OF MEDICINE:
RATIOS OF INDIAN PHYSICIANS LOCATING
AND REMAINING NEAR OR ON RESERVATIONS
PER 100,000 INDIAN POPULATION SERVED BY IHS*



*IHS SERVICE POPULATION COMPRISED OF ALL INDIANS RESIDING IN 354 COUNTIES IN 25 STATES IN WHICH IHS CURRENTLY PROVIDES SERVICES

SUPPLY PROJECTIONS UNDERLYING CHART 7 AND CHART 8

I. Data Bases

A. Current enrollment data - schools of medicine and osteopathy.

B. Population estimates were based upon projections of IHS (conservative figures — i.e., probably underestimated Indian population figures). Since IHS projections stopped at year 1995, estimates for years 2000 and 2010 represent extrapolations on a linear basis from IHS projections for earlier years. Updated Indian population projections are currently in preparation by IHS.

II. Assumptions

A. Time lag for appearance in practice = 7 years after entry into existing schools (4 years school + 3 years residency on average).

B. Twenty-five percent of Indians graduating from existing schools will practice and remain near or on reservations.

C. Annual first-year enrollment for American Indians at existing schools of medicine and osteopathy = 45 starting in 1978; and maintained at that annual level.

D. AISOM to start (i.e., entry of 1st class) in 1980; 32 students/year for first 5 years of operation; then expansion to 40 students/year; and maintained at that annual level.

E. Time lag for appearance in practice from AISOM = 8 years after entry (5 years average time in school + 3 years residency on average). This reflects Indian concerns during the study for extended flexibility in the time required for Indian students to complete an AISOM curriculum.

F. Fifty percent of Indians graduating from AISOM will practice and remain near or on reservations.

G. No deductions nor adjustments were made for attrition (i.e., retirement, disability, death).

H. No prorata deductions were made for physicians concentrating in nonpatient care activities (e.g., administration, teaching, research).

As was noted in Chapter II, the American Indian population has a higher proportion of infants and young individuals versus the total population. Approximately 38 percent of the American Indian population in 1970 was 14 years of age or younger as contrasted to 28 percent for the total U.S.A. Furthermore, estimates of the number of Indians, by age, living on or near reservations indicate that approximately 44 percent of the population in 1973 was 15 years old or younger. 19/

Tables 16 and 17 show comparative birth rates between Indians and the total U.S. population along with projected population figures for Indians through 1995. The point to remember is that, in addition to having a larger number of infants and children within its ranks, the American Indian population is expanding faster than the U.S.A. as a whole. This point is critical to anticipating and meeting future Indian needs for physician manpower and medical care.

COST EFFECTIVENESS

It should be pointed out that, as a technique, cost-benefit or cost-effectiveness analyses are applicable primarily in situations where both output and input of alternative products or processes are measurable or transformable to dollar values. 20/ (The origin of the technique is in comparative analyses of weapons systems.)

In the case at hand, when comparing training of Indian physicians at an Indian school of medicine with the alternative approach of training them in existing conventional schools, cost-effectiveness analysis would be of only marginal usefulness. It is extremely difficult and, at best, almost totally arbitrary to attach a monetary value to the incremental output resulting from training an American Indian physician in one environment versus another.

Suffice it to say that, exclusive of initial capital expenditures, Federal support for the full costs of medical education for additional American Indian students at existing schools would approximately equal the operating costs for a separate school providing education for the same number of Indian students.

AMERICAN INDIAN SUPPORT

There has been support for the generic concept of an American Indian School of Medicine in the past. In a 1974 report entitled, A Study of the Indian Health Service and Indian Tribal Involvement in Health, it was noted within a section on "Physicians' Training" that:

TABLE 16

PROJECTED AMERICAN INDIAN POPULATION

Year	Total U.S.A. Indian Population	IHS Service Population a/
1980	1.08 Million	602,000
1985	1.21 Million	667,000
1990	1.35 Million	731,000
1995	1.50 Million	796,000

Source: IHS estimates as of December 1975. New population projections are currently in preparation by IHS. The figures listed are conservative estimates of population size.

a/ Represents all Indians residing in 354 counties (across 25 States) in which IHS currently provides services.

TABLE 17

BIRTH RATES: AMERICAN INDIANS CONTRASTED TO TOTAL U.S. POPULATION

Year	Birth Rate a/ American Indians	Birth Rate a/ Total U.S. Population
1960	40.3	23.7
1970	32.5	18.4
1975 b/	30.5	Available only in census years

Source: "Vital Statistics of the United States Vol. I Natality". 1960, 1970.

a/ Live births per 100,000 population.

b/ 1975 rate represents IHS estimate based upon the number of Indians residing in 354 counties (across 25 States) in which IHS currently provides services.

> "A medical school culturally oriented to Indian needs is needed..." 21/

In addition, there is documentation of the existing broadly-based Indian support from national organizations as well as multiple regional Indian organizations and tribes for such a medical school targeted to Indian needs. 22/

> "The concept of an American Indian School of Medicine has been considered by Indian tribes and organizations throughout the country. A list of those expressing support for the School follows:
>
> National:
>
> National Indian Health Board, Inc.
> Association of American Indian Physicians.
> National Congress of American Indians.
> Seven States Indian Health Association.
> United Southeastern Tribes.
> National Tribal Chairmen's Association.
> American Indian Commission on Alcoholism & Drug Abuse.
> National Indian Education Association.
>
> Regional:
>
> Sisseton Wahpeton Sioux Tribe.
> California Rural Indian Health Board.
> Phoenix Area Health Board.
> Oklahoma Area (IHS) Advisory Board, Inc.
> All-Indian Pueblo Council
> Billings Area Health Board.
> Bristol Bay Area Health Corporation (Alaska).
> Sells Executive Health Board.
> Inter-Tribal Council of Nevada.
>
> Southwest:
>
> The Navajo Tribal Council.
> Shiprock District Council.
> Two Grey Hills Chapter.
> Kayenta Service Unit Health Board.
> Tuba City Agency Council.
> Shiprock Service Unit Health Board.
> Navajo Area School Board Association.
> Reservation-Wide CAC Executive Board.

Reservation-Wide School Board Conference.
Shiprock Chapter.
Tuba City Chapter.
Tuba City Service Unit Health Board.
Coppermine Chapter.
Navajo Area Indian Health Board.
Rough Rock School Board, Inc.
Chilchinbeto Chapter.
Fort Defiance Agency Council.
Fort Defiance Service Unit Health Board.
Tuba City DNA Agency Council.
Canoncito Chapter.
Navajo National Health Foundation."

Furthermore, during the conduct of the present study, in discussion and consultation sessions with Indian students currently enrolled in medical schools (plus several graduates currently in residency programs), strong support was expressed, on the whole, for an American Indian school of medicine. Several letters documenting such support were subsequently received, including a draft statement of support and endorsement from the Association of Native American Medical Students. 23/ Problems cited by Indian medical students were, in large part, a reiteration of the barriers listed at the end of Chapter III. Especially noteworthy among the cited problems was the sense of isolation of Indian medical students. This isolation encompassed not only significant geographic separation for almost all Indian students from family and community, but also a sense of isolation from peers within their respective medical schools. There was a strongly expressed feeling that interaction with other Indian students would greatly facilitate maintenance of contact with Indian values as well as markedly enhancing their ability to cope with separation from their Indian communities and families.

This impression of isolation from Indian peers is supported by recent medical school enrollment data. In the entering class for 1976-77, of the 26 medical schools enrolling Indian first-year students, over 65 percent of the schools (17 out of 26) enrolled only one student. Furthermore, of the 26 schools, only four indicated a first-year enrollment of more than two American Indians. In terms of total enrollment, of the 63 medical schools with enrolled American Indians, nearly two-thirds (40 out of 63) had only one or two Indian students across all years. 24/

In summary, an American Indian school of medicine would have a significant, positive impact on the goal of expanding medical education opportunities which adequately meet the educational and peer support needs of Indian students as well as fully prepare these students for care provider roles for the Indian people. The establishment of an American Indian school of medicine in conjunction with two other approaches described previously -- scholarship programs and precollege/premedical programs -- would provide a comprehensive and effective strategy to significantly improve physician needs for all Indian peoples.

FOOTNOTES.

1/ U.S. Department of the Interior, Bureau of Indian Affairs. "Federal Indian Policies... from the Colonial Period Through the Early 1970's. Washington, D. C.: GPO No. 024-002-0042-0. 1975, p. 5.

2/ Includes educational expenses, such as tuition, fees, books, etc., and personal expenses, such as room and board. Source: "Studies of Medical Student Financing. Medical Student Finances and Institutional Characteristics. 1974-75." Final Report: Contract No. 231-76-0011.

3/ "Studies of Medical Student Financing. Medical Student Finances and Personal Characteristics. 1974-75." Final Report: Contract No. 231-76-0011.

4/ Ibid. The term "Underrepresented groups" includes American Indians, Blacks/Afro-Americans, Puerto Ricans (Mainland) and Mexican-American/Chicanos.

5/ The Indian Health Service Scholarship Program was originally part of the Indian Health Care Improvement Act. "The (IHS) scholarship program was inadvertently repealed by virtue of the subsequent enactment of the Health Professions Educational Assistance Act of 1976" (Excerpted from Senate Report No. 95-349, p.26). The IHS scholarship program was reinstated as section 757 within amendments to the Public Health Service Act enacted by P.L. 95-83 on August 1, 1977.

6/ Senate Report No. 94-133, p. 55.

7/ Final regulations for the Indian Health Scholarship Program were published on November 18, 1977. (42 Federal Register 59651).

8/ "Study of Public Health Service (PHS) Scholarship Recipients and National Health Service Corps (NHSC) Participants." Final Report: Contract No. 231-76-0011

9/ Qualified American Indian students from INMED have also been accepted at other medical schools, and some have entered other health professions schools. In addition, there are nine demonstration projects with various Indian organizations and tribes under contracts awarded by the Office of Health Resources Opportunity (OHRO), HRA, which address health career guidance and recruitment programs for American Indians.

10/ Programs as comprehensive and intensive as INMED require substantial support. From fiscal year 1972 through 1975, the INMED program received more than one million dollars of Federal support through the Special Health Career Opportunity Grant (SHCOG) program administered by OHRO, HRA. In addition to INMED, Federal grant support (via the HRA SHCOG program and the HRA Special Project program) has been provided for several other projects which address recruitment and retention activities targeted to American Indian students.

11/ Senate Report No. 94-133, p.59.

12/ Lawrence Johnson & Associates, Inc. "An Assessment of Recruitment and Retention Activities in the Health Resources Administration's Special Health Career Opportunity Grants and Special Project Awards." Final Report: Contract No. HRA-230-75-0099. June 1977, pp. 14-19.

13/ Haley, H. B., D'Costa, A. G., and Schafer, A. M. (Eds.). "Personality Measurement in Medical Education." Washington, D. C.: Association of American Medical Colleges, Division of Educational Measurement and Research. 1971, p. 207.

14/ Op. cit., "An Assessment of Recruitment and Retention Activities in the HRA's SHCOG's and Special Project Awards." p. 63 and xiii.

15/ The term "Pan-Indian" (as defined and accepted unanimously by the Feasibility Study Group) comprises individuals from tribal groups and organizations that reflect a reasonable cross-section of cultural and geographic areas.

16/ For purposes of discussion, an assumption is made that 1980 would mark the [illegible] would be enrolled.

CHAPTER IV

FOOTNOTES - Continued

17/ Carnegie Council on Policy Studies in Higher Education. Progress and Problems in Medical and Dental Education. San Francisco, CA: Jossey-Bass. 1976.

18/ Ibid, pp. 89-90.

19/ U.S. Department of the Interior, Bureau of Indian Affairs. "Estimates of Resident Indian Population by State and Reservation: March, 1973." 1976, p.1.

20/ Suchman, E. A. Evaluative Research. New York: Russell Sage Foundation. 1967.

21/ Report by Urban Associates, Inc. under Contract HEW-OS-72-209, 1974, p. 59.

22/ House Report No. 94-1026, Part 1: pp. 119-120.

23/ The Association of Native American Medical Students (ANAMS) is comprised of 49 members nationwide. There are 5 council members who are elected annually. At a meeting in August, 1977 of approximately 12 ANAMS members (including 4 of the 5 council members), an ANAMS statement of endorsement and unanimous support regarding the need for an American Indian School of Medicine was drafted and subsequently forwarded to the Feasibility Study Group.

24/ Association of American Medical Colleges (AAMC). Minority Opportunities in United States Medical Schools. Washington, D.C.: AAMC. 1977.

CHAPTER V

FEASIBILITY OF AN AMERICAN INDIAN SCHOOL OF MEDICINE

A medical school has been defined as "...as an aggregation of resources that have been organized as a definable academic unit to provide the full spectrum of education in the art and science of medicine... culminating with the award of the M.D. degree." "...the principal responsibility of the medical school is to provide its students with the opportunity to acquire a sound basic education in medicine and also to foster the development of life long habits of scholarship and services." 1/

Further, the accrediting body specifies that a medical school "...should identify those needs that it might appropriately meet and create programs consistent with its educational objectives and resources to meet them. 2/

Salient among the needs that have been identified by U.S. Medical schools are responsibilities for medical research and health care servcice in addition to medical education. Thus, any assessment of the "Appropriateness of the development and operation of an AISOM should be carried out in the context of the singular role of medical schools in undergraduate medical education as well as the other functions and products of these institutions. An assessment of "feasibility," however, must give early consideration to the generic requirements of the accrediting body. The following presents an examination of these requirements and the additional specific American Indian requirements that must be satisfied by an AISOM.

Specific Requirements of the Liaison Committee on Medical Education 3/

Governance and Administration

- The medical school should affiliate with an accredited university that complements the medical school academically. This affiliation should ensure that the medical school has a separate governance mechanism. The board of trustees of the medical school would then be responsible for the school's policies and would appoint the medical school's officers and faculty. 4/

- Graduate medical education programs must be established in conjunction with the teaching hospital affiliations. Residency programs would provide a pool of future faculty and provide a teaching, learning, research and patient care environment essential to the faculty recruitment.

- A new medical school must develop affiliations with one or more hospitals for teaching purposes, and it must have an agreement with the affiliated hospital that guarantees the medical school appropriate academic and educational control over the beds used for teaching purposes.

- For nonacademic matters, the school should be organized along a committee format (for example, there should be committees for admission, promotion, curriculum, library, animal care, etc.)

- To meet undergraduate requirements for a full range of clinical clerkships, a medical school must develop a major relationship with at least one hospital (a teaching hospital). The required clerkships include family practice, medicine, surgery, obstetrics-gynecology, pediatrics and psychiatry. For each of these clerkships, there must be an accredited graduate residency program (accredited by the Liaison Committee for Graduate Medical Education, LCGME) in the same specialty and at the same hospital.

- The dean should have an adequate staff.

- The faculty teaching and supervising the clerkships and the residencies would include physicians practicing at the associated hospital who are also part-time faculty. However, to receive and maintain accreditation, the medical school must have control of the clinical faculty for issues involving the medical school program.

To meet the need for American Indian self-determination, the governance mechanism should permit American Indian control of the medical school board of regents. In turn, this control would extend to all policies of the medical school, including faculty appointments and student admissions.

If the university owned the medical school, it could delegate its formal authority over the medical school to an advisory board that would then serve as the medical school's board of trustees.

On the other hand, an affiliation (versus ownership) university would preserve Indian interest while capitalizing upon the academic strengths of the affiliate university and could thereby exercise its own governance. An American Indian school of medicine as part of (rather than affiliating with) an existing university, would jeopardize this option and become another division of the university, comparable in standing to a law school or a business school governed by the university's own board of trustees.

Faculty

There should be a sufficient number of faculty to conduct the broad spectrum of activities that are required for the education of medical students.

LCME does not define the exact class size requirements for medical school faculty but requires that the core faculty be full-time members of the school. (See Appendix A).

- A major point favoring feasibility is the existing supply of physicians. There is more than likely to be a nationwide pool of doctors of both sufficient size and quality to provide a core of about 30 full-time faculty members for the basic sciences and about 70 full-time faculty members for the clinical sciences. National vacancy rates for medical school faculties are low enough to indicate that positions at a new medical school would be filled. It is reported that "American medical schools have succeeded well over the past 25 years in recruiting and retaining faculties of high quality." 5/

- In order to attract the desired faculty, however, assurance of institutional viability will be needed and it will probably be necessary to locate the school near an urban area in order to attract the core faculty (and their families) for the basic sciences and clinical programs, and to provide for a sufficient pool of volunteer faculty.

- Initially, American Indian faculty members could, at best, fill only a small proportion of the faculty requirements of a new school. Over time, this problem may be ameliorated as new American Indian physicians complete medical school.

- The initial non-Indian faculty would need to undergo a comprehensive orientation program on American Indian culture, thus providing needed orientation and heightened sensitivity to the relationship between the school's curriculum and the American Indian culture.

- While the primary emphasis of an American Indian school must be upon the education and training of family practice physicians, the highest faculty vacancy rate nationwide is in this specialty. This may be a short-term recruitment problem and should be resolved over the next decade as increasing numbers of students specialize in family practice.

Education Programs

Length of the undergraduate program and the structure of the curriculum are based primarily upon the goals and objectives of an institution with respect to the student's acquisition of knowledge, concepts, skills and attitudes. A student is expected: (1) to know how to produce and evaluate new information; (2) to acquire the basic facts, concepts and skills of medicine; and (3) to learn how to solve clinical problems.

The course of study offered by a medical school is developed by the faculty under the direction of the board of regents in concert with the institution's goals and objectives. The usual curriculum in an undergraduate medical education program includes at least 25 core disciplines. 6/ In existing medical schools, the curriculum is offered in undergraduate medical education programs that may range from three to six years.

A Pan-Indian 7/ school of medicine would have the option to incorporate a course of study in traditional Indian medicine. In addition, special care clinical clerkships in Indian medicine could be established to complement the specialty clerkships required by the LCME. The clinical clerkships in Indian medicine could be pursued in the environment of each student's community. The Pan-Indian school would also have the option to extend the length of the undergraduate program to meet its curriculum requirements.

Class Size

As part of the accreditation process, LCME may determine the optimum number of students that can be admitted for each class based on:

- Academic resources (including the number and variety of faculty and other graduate medical education programs)
- Physical resources (including the number and size of classrooms, laboratories, faculty offices and laboratory space)
- Financial resources
- Availability of qualified students
- Responsibility for research, continuing education and patient care. 8/

The number of American Indians admitted in each entering class can be determined only after a policy relating to admissions is established by the board of regents.

LCME does not specify the number of students a new medical school should have for its first class or for subsequent classes. However, in order to be eligible to receive Federal Start-Up Assistance, a new school must provide reasonable assurance that it will have at least 24 full-time, first-year students enrolled in its first year of operation.

A sufficient pool of qualified 9/ American Indian applicants is essential to assure an adequate number of qualified candidates to fill all annual first-year class places which might be made available.

there would be a high level of interest in attending an American Indian school of medicine.

Furthermore, Chapter III provides evidence that there exists an adequate potential pool of American Indian applicants to fill all the first-year places at an American Indian school of medicine. This could be accomplished without reducing demand for access to existing schools of medicine and osteopathy currently accepting Indian students.

Facilities

In particular, the physical plan should make provision for:

- Educational facilities, including offices and space for the basic science and clinical science departments, teaching and study areas, laboratories and a library.
- Research facilities (including animal care facilities) for the basic and clinical science departments.
- Administrative facilities, including offices for the dean and support staff; business offices; and space for purchasing, building operations, and storage.

The specific size and cost of the facilities cannot be defined in this study. To estimate them would require a detailed determination of the nature of the curriculu, the site of the school, the availability of existing facilities that could undergo minor renovation and the need for construction of new facilities.

Medical school representatives have indicated that construction of facilities (i.e., educational, research and administration) for a comparatively small medical school would probably require between $10 and $15 million of capital expenditures.

It is likely that some construction would be required for a basic science facility because the associated space needs usually cannot be met in the long term by leasing or sharing existing university facilities. Expert opinions have indicated that construction of a basic science facility, with a library and animal care facility, would cost at least $6 million.

Finances

LCME encourages new schools to seek operating support from diverse sources.

As part of the accreditation process, LCME requires a projection of the sources of funds over a five-year period. In particular, this projection must include a statement of firm commitment from the various funding sources regarding the scope and timing of their financial assistance.

An American Indian school of medicine could, as do existing schools, develop a broad base of support utilizing the following four primary funding sources to finance developmental and ongoing costs:

- Federal Government
- State or local government
- Private support from foundations or corporations
- Self-generated income earned by the medical school through tuition charges, medical service plans and the provision of college services.

In general, U.S. medical schools receive approximately 60 percent of their support from the public sector.

The operating costs for fully developed medical schools vary across a broad spectrum, with some important determinants being the objectives of the school, the level of research, the type and amount of patient care and the number of other programs offered in cases where the school is part of a health service complex.

Based on the experiences of other medical schools that have recently started operations (Reference Appendix C) of comparable class size (32 students) to the proposed school, the operating costs of an American Indian medical school may be estimated over two specific phases:

- The "development period," from authorization of the school to completion of the first-year of instruction. 10/
- The "fully operational period," the three-year period from the admission of the second class to graduation of the first class.

It is estimated that the funding requirements (in 1977 dollars) for an American Indian school of Medicine would increase from $900,000 to $7 million a year during the initial five-year period. The total operating costs for the "development period" is estimated at $2.7 million and for the "fully operational period" $15.7 million. For the two periods, the operating costs would total approximately $18 million. For the ongoing operation of the medical school, the annual operating costs are estimated between $7 and $8 million. (See Appendix C for full discussion of operating costs.)

Location

The location selected must be in or near areas that have Liaison Committee on Graduate Medical Education approved graduate education programs and have an adequate supply of beds in teaching hospitals for the clinical clerkship programs.

A guideline for determining the number of hospital beds for clinical teaching purposes is four beds for every student in the clinical phase. As an example, with 64 students in the clinical phase, about 260 beds would be needed for teaching purposes.

There are a number of sites or locations that could be considered feasible for establishing an American Indian school of medicine. However, the purpose of this study was to identify and present criteria crucial to site selection as one determinant of feasibility.

For the American Indians, an American Indian school of medicine must be located near a high concentration of Indians and yet centrally located to facilitate access to a majority of students. To varying degrees, there are approximately 14 States that could meet this requirement. However, serious consideration would have to be given to additional requirements which variously impact upon the feasibility of any one of the locations.

Requirements of American Indians

The American Indian requirements are straightforward, relevant to self-determination, and compatible with the requirements of the Liaison Committee on Medical Education.

The specific American Indian requirements are:

- The medical school governance policy should assure Pan-Indian governance. The term, "Pan-Indian," as defined by the Feasibility Study Group "comprises individuals from tribal groups and organizations that reflect a reasonable cross-section of cultural and geographic areas."
- Admissions policies and criteria should ensure that equal and adequate opportunity is provided to all American Indians.
- The educational program should be aimed at ensuring an understanding of American Indian culture.
- The institutional environment should be accessible to the diversity of Indian cultural heritages.

- The school should be geographically accessible to the majority of American Indian peoples.
- The curriculum should be competency constant but time variable.
- The curriculum must accommodate education and training in the traditional healing concepts and practices of American Indians.

These specific American Indian requirements are not in conflict with those of the accrediting body. They appear to be, in fact, particularly responsive to the specification by the Liaison Committee that medical schools "...should develop a clear definition of objectives that are appropriate to the needs of the community it serves and the resources at its disposal."

Thus, the issue of feasibility and appropriateness of an AISOM pertains to the potential of an AISOM for becoming an effective means of diversifying and strengthening (1) the medical education opportunities for American Indians, and (2) the present system of Indian health care. The most exacting test of the four approaches advanced to meet these challenges is the ability of the proposed school to contribute to the prevention and management of disease and disability.

The establishment of an American Indian medical school represents a promising new approach for meeting the medical care delivery and medical education needs of the American Indians. It involves the development and operation of a fully accredited institution that will provide medical education and training to American Indian students. The medical curriculum could be developed around a time variable, competency constant program that combines areas of study relevant to American Indian cultures.

In addition, as noted in Chapter IV, students would have the opportunity to receive their clinical training in hospitals and other facilities serving American Indian patients. Likewise, graduates of the medical school would be able to complement their training in current medical techniques while maintaining continuity with the cultural and medical practices of the American Indians.

The establishment of such a medical school would expand these opportunities for American Indians, especially for those living on reservations and in rural areas. The cultural barriers American Indian students face in the vast majority of existing medical schools would be reduced and a center within an Indian milieu for discussion of and research on the issues surrounding American Indian health care would be established. The principles of American Indian self-determination in areas of health care and medical education would be markedly enhanced and would interact positively with many facets of Indian life.

Concluding Points Regarding Feasibility

An AISOM in concert with programs providing financial assistance for Indian students along with comprehensive preprofessional education represent an appropriate strategy to optimally serve the needs of the American Indian peoples.

The Indian Health Care Improvement Act offers the opportunity for American Indians to assume a major responsibility for addressing Indian health care needs. The nationally recognized policy of self-determination in health policy development, program planning and administration will not be fulfilled until American Indian health professionals and health workers are educated to lead in the provision of medical care required by the Indian people. On the other hand, the establishment of an AISOM with scholarship and precollege/premedical programs, in addition to satisfying the medical care and medical education needs, would add a significant dimension to the fulfillment of the Nation's commitment to the self-determination of American Indian peoples.

CHAPTER V

FOOTNOTES

1/ Source: AMA/AAMC Liaison Committee on Medical Education "Functions and Structure of a Medical School." The American Medical Association through its Council on Medical Education and the Association of American Medical Colleges serves as the recognized accrediting agencies for medical schools. To be accredited, a school must be approved by the Liaison Committee on Medical Education, by the Council on Medical Education, American Medical Association and offered membership in the Association of American Medical Colleges.

Accreditation is the approval granted on the finding of a sound educational program as a result of a survey conducted by the Liaison Committee on Medical Education. The Liaison Committee representing the voluntary professional sector includes a representative from the government and the public, and is recognized by the Council on Postsecondary Accreditation, the U.S. Commissioner of Education, the DHEW/PHS Bureau of Health Manpower and various licensure boards as providing the official accreditation for medical education.

2/ Ibid.

3/ Ibid.

4/ According to LCME guidelines, the board should be made up of "public spirited men and women having no financial interest in the operations of the school or its associated hospitals." In addition, those who provide funds for developing the new medical school should not serve on, or attempt to influence selection of the board.

5/ Spellman, M. W., and Meiklejohn, G. Faculty tenure in American medical schools. Journal of Medical Education, 52(8):623-632, 1977.

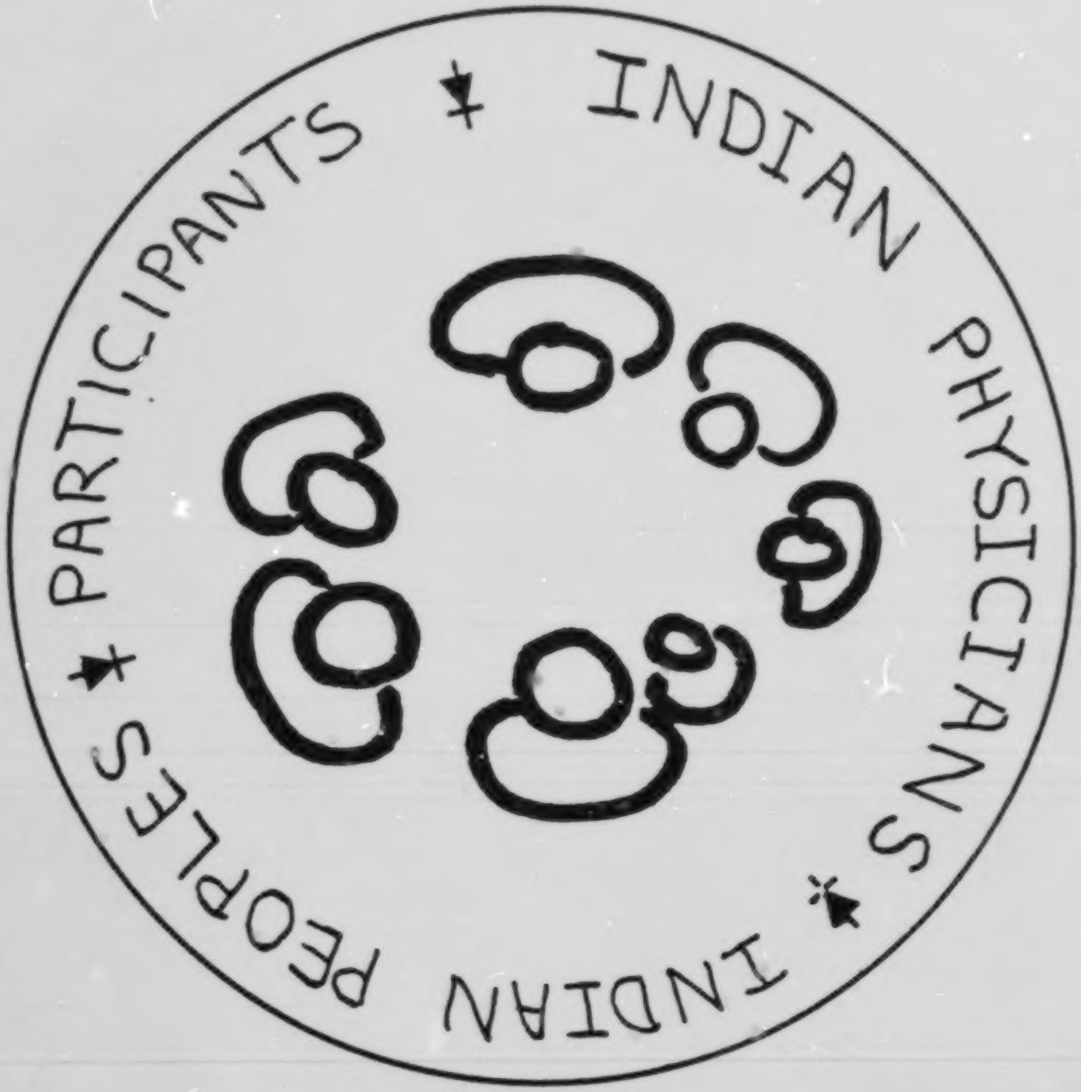
6/ Gynecology, medicine, obstetrics, pediatrics, psychiatry, radiology, surgery, pathology, anatomy, biochemistry, pharmacology, physiology, microbiology, ophthalmology, otology, rhinology, laryngology, orthopedic surgery, anesthesiology, urology, dermatology, preventive medicine, neurosurgery, physical medicine, public health, rehabilitation.

7/ "Pan-Indian," as defined by the Feasibility Study Group, comprises individuals from tribal groups and organizations that reflect a reasonable cross-section of cultural and geographic areas.

8/ Liaison Committee on Medical Education, Accreditation of Schools of Medicine: Policy Documents and Guidelines.

9/ "Qualified" refers to the ability to meet medical school requirements.

10/ As set forth in "New Resources For Medical Education: Start-Up Expenditures in 22 New U.S. Medical Schools," Journal of Medical Education: 47 (September 1972). This segment of the study includes data from the University of New Mexico, the University of Arizona, Pennsylvania State University, the University of Texas at San Antonio, the University of California at Davis, the Medical College of Ohio at Toledo and Louisiana State University at Shreveport. Data on several expense items were unavailable for one of these schools.


PARTICIPANTS
INDIAN PHYSICIANS
INDIAN PEOPLES

APPENDIX A

Medical School Faculty

In 1975-76, the total of full-time faculty positions filled in the United States medical schools was about 39,000. About 27 percent (7,200) of these were in the basic science departments and 73 percent (21,800) in the clinical sciences. Presently, 14 American Indians (10 persons with M.D. degrees, three with Ph.D. degrees and one with a public health and preventive medicine degree), are serving as faculty members in the United States medical schools.

The number of "budgeted but unfilled faculty positions" is an inverse indicator of the supply from which faculty for the American Indian medical school might be drawn. For the 1975-76 school year, 5.9 percent of all basic science and clinical positions were unfilled. By department, these rates varied from a low of 4.0 percent in psychiatry to a high of 16.6 percent in family medicine.

According to LCME statistics, there are 0.70 full-time and 1.39 part-time faculty members for each student in United States medical schools. In 1975-76, there were 56,244 medical students; 39,330 full-time faculty members; and 78,280 part-time or volunteer faculty members in the 117 United States medical schools.

As shown in the Table below for a selected group of smaller medical schools, the ratios for full-time faculty are even somewhat higher than the United States average, and the ratios for part-time faculty vary greatly.

School	Number of Medical Students	Number of Faculty Members Per Student	
		Full-time	Part-time
U.S. Average (All Schools)	493	0.70	1.39
A	123	0.73	0.92
B	90	0.82	4.52
C	136	0.80	2.51

Source: Association of American Medical Colleges.

Schools A, B and C were selected randomly from among the medical schools having the smallest number of medical students that expressed a willingness to participate in the study.

This Table indicates that an American Indian medical school with an enrollment of 128 (i.e., first-year class of 32) would require about 100 full-time faculty members (using a ratio of about 0.75 full-time faculty members per student) and at least another 100 part-time faculty members.

For the full-time faculty, it would be necessary to consider the specific staffing requirements for basic sciences and for clinical sciences. The basic science faculty (oriented toward the initial two years of medical school) would teach the major disciplines of biological and behavioral sciences: anatomy, biochemistry and physiology in the first year and pathology, pharmacology, microbiology, and clinical laboratory procedures in the second year. In the clinical sciences (usually the third and fourth years of medical school), the faculty would teach and supervise clerkships in the major clinical disciplines of internal medicine, surgery, family and community medicine, pediatrics, obstetrics-gynecology and psychiatry. According to LCME data covering all United States medical schools, the split of full-time faculty positions is 27 percent for the basic sciences and 73 percent for the clinical sciences. As shown in the Table below, these proportions tend to be higher in the basic sciences (and, correspondingly, lower on clinical sciences) for our sample of selected smaller schools.

		Percentage of Full-Time Faculty Members	
Medical School	Number of Medical Students	In Basic Sciences	In Clinical Sciences
U.S. Average (All Schools)	493	27	73
A	123	43	57
B	90	31	69
C	136	35	65

Source: Association of American Medical Colleges.

Sources of Financing

The Federal Programs of Institutional Support

Federal Government support is available in three primary areas:

- Federal Start-Up Assistance Program
- Health Professions Start-Up Assistance Grant Program
- Health Professions Capitation Grants Program
- Restricted contracts and grants for research and teaching.

The DHEW Health Professions Start-Up Assistance Grant Program

This program, which was authorized under the Comprehensive Health Manpower Training Act of 1971, and its successor Health Manpower legislation enacted in 1976, provides for discretionary awards for a four-year project period to institutions planning and developing new medical schools. Using an established formula, the amount of the grant may attain the following levels:

- In the year preceding the first year of student enrollment, up to $10,000 for each full-time student planned for the first entering class
- In the first year of enrollment, up to $7,500 for each full-time student in the school
- In the second year of enrollment, up to $5,000 for each full-time student in the school
- In the third year of enrollment, up to $2,500 for each full-time student in the school.

Eligibility for Start-Up Assistance is limited to those schools that have received reasonable assurance from the LCME that the school will be accredited if it proceeds according to its development plans.

Assuming that an American Indian medical school would have an entering class of 32 students for each of the first three years of instructions, the total amount of funds provided through Federal start-up assistance could range up to $1,110,000.

The Federal Capitation Grants Program

Bureau of Health Manpower regulations state that the "purpose of the capitation grant program is to provide a general support base for the educational programs of the schools...(because of this) these funds may be used for regular operating costs, including the costs of research and patient care related to the educational program of the school." Funds may not be used for construction or for student financial aid. Funds actually appropriated under this program have, however, been substantially less in the past. Due to the trend toward student support, some medical educators feel that capitation grants may be phased out in the near future.

As of fiscal year 1979, the capitation grant program provides authorization for $2,050 for each medical school student. Assuming that an American Indian medical school would have an entering class of 32 students for each of the first four years, the amount of funds provided through capitation grants would be increased from $65,600 in the first year to $262,400 in the fourth and succeeding years of school operation. The total level of potential direct Federal assistance over the period 1979-1984 could thus be estimated at $2.1 million (or 11 percent of the school's total support requirements). However, it is to be noted that this authority expires in 1980.

State and Local Governments Sources Of Funding

Nationally, State and local governments provide almost 18 percent of all funding for medical schools. Although some level of State aid could be possible, such aid is likely to be limited and subject to the variability of the annual appropriations process.

Support From Private Foundations Or Corporations

Funding from private foundations and corporations represents about 16 percent of the total funding of all medical schools. Forty-three private foundations together distribute over $10 million in health-related grants annually.

The Medical Schools' Own Income

The primary sources of self-generated funds are student tuition fees, professional fees charged under medical service plans, income from college services, endowment and gift income and interest earned on investments. Nationally, these sources represent 23 percent of all medical school support.

Research And Teaching Contracts And Grants

Although Federal research teaching contracts and grants account for about 40 percent of total medical school funding nationwide, the experiences of new schools suggest the likelihood of significantly lower levels during the initial years of operation.

In particular, a study of 22 new medical schools noted that operational support from sponsored grants and contracts prior to the enrollment of students has been meager...(Fourteen of these schools received a median of $189,000 in the planning phases ...In contrast, established U.S. medical schools have become heavily dependent on funds from sponsored programs, especially in the maintenance of their clinical and research operations. In the face of the continuing unswerving conviction of medical educators that medical education best flourishes in a milieu in which research, education, and service are melded, funding the start-up costs of their research, service and graduate education programs has been a particularly vexatious problem for the new schools.[1] In support of this, one new medical school (for which detailed income and expense information were available) obtains only 15 percent of its total funding from both Federal and other sources under restricted grant programs.

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[1] Journal of the American Medical Association 236:26 (December 27, 1976).

APPENDIX C

Operating Costs

The operating costs of an American Indian medical school may be reviewed in terms of two specific periods:

- The "development period," from authorization of the school to completion of the first year of instruction. 1/
- The "fully operational period," at which point the 4-year program is in operation and the maximum level of enrollment (i.e., 128 students) has been achieved.

The level of costs involved in each of these periods is summarized below.

The Operating Cost For The "Development Period" Is Estimated At $2.7 Million For A Class Of 32 Students 2/

This development period involves two separate components. First, for the time-frame from authorization of the school to enrollment of the first class, an estimated $900,000 will be needed. Using 1970 data on six new 4-year medical schools, it was found that the average expenditure over this period was $1,099,000 for the average first-year class of 69 students. This amounted to an average cost per first-year student of about $16,000. 3/ Although all data are expressed in 1970 dollars, comparable costs in 1977 were about $28,700 per student (of $918,400 for a class of 32 students). 4/

Second, for the period from enrollment of the first class through completion of the first year, an estimated $1.8 million will be needed. In the survey cited above, first-year costs were not identified separately by type of school (i.e., 2-year basic science, 4-year medical, 4-year medical with health science complex). However, for the total group of schools surveyed, the average first-year operating cost was $2,396,000, or $33,000 per student. Using the per student cost and adjusting for inflation since 1970, the average cost per student for the first year of operation is $56,600 (or $1,810,000 for a class of 32 students).

The Annual Operating Cost For The "Fully Operational Period" Is Estimated At $7 Million Or A Total Enrollment Of 128 Students

The operating costs for fully developed medical schools vary across a broad spectrum, with some of the important determinants being the objectives of the school, the level of research, the type and amount of patient care and the number of other programs offered in cases where the school is part of a health science complex. However, some general parameters may be obtained by reviewing data on existing medical schools.

Four medical schools were selected for a cost analysis. Because these schools were randomly picked from the ten smallest medical schools in the United States, expenses should be comparable to those of an American Indian medical school. Based on this analysis, it was found that, in 1975-76, the cost per student at these four schools ranged from $35,700 to $67,400, as shown in Table 1, with the primary differences associated with the levels of sponsored programs.

Table I

Comparison of Medical School Operating Costs

Expenditure Category	Cost Per Student For Each School (In Thousands)			
	A	B	C	D
Instruction and departmental research	$22.3	$23.4	$23.5	$10.5
Sponsored research	4.6	3.1	19.8	4.2
Sponsored teaching and training	1.7	19.7	5.4	9.4
Sponsored service programs	0.5	0.6	5.4	.7
Administration and general	9.1	7.8	8.1	10.1
Operations and maintenance	1.8	2.0	4.2	-
Libraries	2.2	0.6	1.0	.8
Total	$42.2	$57.2	$67.4	$35.7

Source: Association of American Medical Colleges.

At these four schools, the average cost per student was $50,625, equivalent to $54,675 at 1977 levels. 5/ For a school with 128 students, this translates to an annual operating cost of $7.0 million. The total cost for these four schools ranged between $6.3 million and $11.3 million. 6/

As the analysis points out, the ongoing financial commitment for operating a medical school is substantial, and the costs have been rising rapidly. Based on the experience cited, it appears that an American Indian medical school would require about $18 million in operating funds over the initial 5-year period. Assuming the first class would enter in September 1980, the following schedule is applicable:

Period	Cumulative Total Students Enrolled	Estimated Operating Cost (In Millions)
1979-80	0	$ .9
1980-81	32	1.8
1981-82	64	3.5
1982-83	96	5.2
1983-84	128	7.0
Total		$ 18.4

It should be noted that these costs, which are expressed in terms of 1977 dollars, are subject to future cost inflation.

Cresap, McCormick and Paget Inc.
Management Consultants

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London • Melbourne • São Paulo

August 12, 1977

Ms. Helen McCarron
Division of Medicine
Bureau of Health Manpower
Health Resources Administration
U. S. Department of Health, Education
and Welfare
Federal Building No. 2
3700 East West Highway
Hyattsville, Maryland 20782

Dear Ms. McCarron:

We are pleased to submit our final report on our study to assess the need for and feasibility of establishing an American Indian medical school.

Congress has mandated, through Title VI of the Indian Health Care Improvement Act (PL 94-437), that the Secretary of Health, Education and Welfare, "in consultation with Indian tribes and appropriate Indian organizations, shall conduct a study to determine the need for and the feasibility of establishing a school of medicine to train Indians to provide health services for Indians." Under contract to the Bureau of Health Manpower, Cresap, McCormick and Paget Inc. has prepared this report on its independent analysis of the various study issues. The report presents background information relevant to the study, assesses the health care delivery and the health career needs of the American Indians, outlines a comprehensive set of programs for addressing these needs, and assesses the feasibility of establishing an American Indian medical school.

We appreciate the valuable guidance and assistance we received throughout the study from members of the Feasibility Study Group. We would be pleased to discuss this report with representatives from the U. S. Department of Health, Education and Welfare and look forward to the opportunity to be of further assistance.

Very truly yours,

Cresap, McCormick and Paget Inc.

CRESAP, McCORMICK And PAGET Inc.

A STUDY TO DETERMINE THE NEED FOR AND FEASIBILITY OF ESTABLISHING AN AMERICAN INDIAN/ALASKAN NATIVE MEDICAL SCHOOL

FINAL REPORT

August 12, 1977

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I - INTRODUCTION

STUDY BACKGROUND

This report presents the results of a study of the need for and feasibility of establishing a medical school to train American Indians to provide health services for American Indians.[1] The study was mandated by the Congress under Title VI of PL 94-437, known as the Indian Health Care Improvement Act (the Act) and passed on September 30, 1976.

As underscored by Congress in its passage of the Act, concern over the health status of American Indians and over the provision of health services to American Indians is significant. In particular, Congress found that:

- Federal health services to maintain and improve the health of the Indians are consonant with and required by the Federal Government's historical and unique legal relationship with, and resulting responsibility to, the American Indian people.
- A major national goal of the United States is to provide the quantity and quality of health services which will permit the health status of Indians to be raised to the highest possible level and to encourage the maximum participation of Indians in the planning and management of those services.
- Federal health services to Indians have resulted in a reduction in the prevalence and incidence of preventable illnesses among, and unnecessary and premature deaths of, Indians.

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[1] Throughout this report, the term "American Indians" is used to encompass all American Indians and Alaskan Natives, including Aleuts and Eskimos.

- Despite such services, the unmet health needs of the American Indian people are severe and the health status of the Indians is far below that of the general population of the United States.

- All other Federal services and programs in fulfillment of the Federal responsibility to Indians are jeopardized by the low health status of the American Indian people.

- Further improvement in Indian health is imperiled by:

    - o Inadequate, outdated, and inefficient facilities....

    - o Shortage of personnel....

    - o Insufficient services in such areas as laboratory, hospital inpatient and outpatient, eye care and mental health services, and services available through contracts with private physicians, clinics and agencies....

    - o Related support factors....

    - o Lack of access of Indians to health services due to remote residencies, undeveloped or underdeveloped communication and transportation systems, and difficult, sometimes severe, climatic conditions....

    - o Lack of safe water and sanitary waste disposal services....

- The Indian people's growth of confidence in Federal Indian health services is revealed by their increasingly heavy use of such services. Progress toward the goal of better Indian health is dependent on this continued growth of confidence. Both such progress and such confidences are dependent on improved Federal Indian health services.[2]

---

[2] House of Representatives, Report of the Committee On Interior And Insular Affairs (April 9, 1976).

In light of this concern, interest in a medical school for American Indians is substantial, as evidenced by various reports and statements to Congress and other bodies on the significant and unique health care needs of the American Indians. Title VI of the Act states that the Secretary of Health, Education and Welfare, "in consultation with Indian tribes and appropriate Indian organizations, shall conduct a study to determine the need for, and the feasibility of establishing a school of medicine to train Indians to provide health services for Indians." The Bureau of Health Manpower (BHM), Health Resources Administration, was assigned responsibility for the study. Under contract to BHM, Cresap, McCormick and Paget Inc. conducted an independent study of the relevant issues. In addition, an ad hoc Feasibility Study Group composed of representatives from major Indian organizations and medical educators was established to assist in the conduct of the study and to develop its own recommendations.

STUDY OBJECTIVES

The study of the need for and feasibility of establishing an American Indian medical school had four primary objectives:

- To determine the need for a medical school that will educate and train American Indians to deliver health care to the American Indian people
- Based on these needs, to determine the feasibility of establishing a medical school to provide health care education and training to American Indians
- To then consider practical approaches (in addition to establishing a medical school for American Indians) to responding to the health care needs of American Indians and to providing American Indians with health care education and training
- Finally, to present the study conclusions as a basis for the development of recommendations on the need for and feasibility of establishing a medical school for American Indians.

STUDY SCOPE

The study issues related to the need for an American Indian medical school encompassed by the study included the:

- Status of health care delivery to the American Indians
- Health service needs of the American Indians
- Health career opportunities of the American Indians.

The study issues related to the feasibility of establishing an American Indian medical school included:

- A medical school for American Indians' potential contribution to the provision of quality health care to American Indians, as compared with the health care provided by the present system
- American Indians' interest in establishing a medical school
- Educational requirements to meet both the unique cultural needs of American Indians and the accreditation requirements of the Liaison Committee on Medical Education (LCME), American Medical Association (AMA), Association of American Medical Colleges (AAMC) and Liaison Committee on Graduate Medical Education (LCGME)
- The potential characteristics (including location, size, organization and human and financial resources) of an American Indian medical school.

STUDY METHODOLOGY

The study methodology involved a comprehensive review of existing documentation and data sources; interviews and discussions with various American Indian individuals and groups (including open meetings attended by representatives of 50 American Indian organizations); discussions with members of the Indian Health Service (IHS), the U. S. Department of Health, Education and Welfare and other agencies; and the subsequent review and analysis of the study findings.

ARRANGEMENT OF THIS REPORT

The remainder of this report is arranged as follows:

- Chapter II, Background, reviews the uniqueness of the American Indian population, the major Federal policy toward the American Indians and the present health care delivery system
- Chapter III, Assessment of Needs, reviews the health care delivery and health career opportunity needs of the American Indians
- Chapter IV, Programs for Addressing Needs, reviews a comprehensive set of programs for addressing the health care delivery and the health career opportunity needs of the American Indians
- Chapter V, Feasibility of a Medical School for American Indians, assesses the feasibility of an American Indian medical school and reviews the administration and governance, faculty, student body, facilities, operating costs, sources of financing and location issues associated with such a school.

II - BACKGROUND

This chapter presents background information on the American Indians. The uniqueness of the American Indian population, major Federal policy regarding the American Indians, and the present system for delivering health care to the American Indians are discussed.

THE UNIQUENESS OF THE AMERICAN INDIAN POPULATION

The cultural heritage of the American Indians encompasses many religions, social orders and values. Although they are sometimes considered a homogeneous entity, American Indians are in fact divided into almost 500 different tribes and groups, each with its own customs and ceremonies. Because the nature and scope of these cultural factors are the subject of various sociological reports on the American Indians, they will not receive in-depth treatment here. However, it is important to note that the American Indians possess distinct cultures that are significantly different from the non-Indian culture and that, in the view of many American Indians, this cultural difference has inhibited a broad-based understanding of their needs.

The demographic, health, educational and economic welfare characteristics of the American Indians are discussed below.

Demographic

The estimated 1,027,000[1] American Indians are members of various tribes, bands, rancherias, pueblos and other communities that range in size up to 130,000 persons on the Navajo Reservation. Based on the most recent Census data, the largest American Indian populations are located in Oklahoma, Arizona, California, New Mexico, Alaska and North Carolina, as shown in Exhibit II-1. Altogether, American Indians represent about four-tenths of one per cent of the total United States population.

---

[1] Indian Health Service estimate for Fiscal Year 1977.

EXHIBIT II-1

AMERICAN INDIAN POPULATION, BY STATE

State	Percentage Of All American Indians Residing In The State
Oklahoma	11.9
Arizona	11.6
California	11.0
New Mexico	8.8
Alaska	6.1
North Carolina	5.4
Washington	4.0
South Dakota	3.9
New York	3.4
Montana	3.3
Minnesota	2.8
Wisconsin	2.3
Texas	2.2
Michigan	2.0
All Other States	21.3
Total	100.0

Source: Bureau of the Census, 1970 data.

The American Indian population is often discussed in terms of the following three broad demographic groups:[2]

- Reservation Indians, consisting of an estimated 400,000 American Indians who live on the areas commonly referred to as Federally recognized reservations. The largest population of reservation Indians is located in Arizona

- Rural Indians, consisting of an estimated 300,000 American Indians who live near, but not on, the Federally recognized reservations and in other rural areas

- Urban Indians, consisting of an estimated 300,000 American Indians who live in or near various urban centers. As shown in Exhibit II-2, the largest urban Indian populations are found in Los Angeles, Tulsa, Oklahoma City and San Francisco/Oakland.

According to the 1970 Census, the American Indian population was then 827,000, representing a 50 per cent increase over 1960. This unusual rate of growth (the total United States population experienced only a 13 per cent growth rate over this period) can be attributed both to natural increases and to improved census-taking procedures. Because of a growing pride in their heritage, a greater number of American Indians, particularly those in non-reservation areas, are now identifying themselves as such.

Again using Census data, the average age of the American Indians is 20.4 years, as compared to 28.1 years for the total United States population. This reflects the fact that American Indians have a higher (by 106 per cent) birth rate and die younger (by 5.8 years) than the total United States population. The population percentages by age for American Indians and for the United States as a whole are compared in the table on page II-3.

---

[2] This breakdown excludes non-Federally recognized tribes and terminated tribes.

EXHIBIT II-2

AMERICAN INDIAN POPULATION, BY METROPOLITAN AREA

Metropolitan Area	Number Of American Indians
Los Angeles	24,510
Tulsa	15,520
Oklahoma City	13,030
San Francisco/Oakland	12,210
New York	12,160
Phoenix	11,160
Minneapolis	9,860
Seattle	9,500
Chicago	9,000
Tucson	8,840
Albuquerque	5,840
San Diego	5,880
Detroit	5,680
Dallas	5,020
Denver	4,350

Source: Bureau of the Census, 1970 data.

American Indian Age Category	Per Cent Of Population Total United States	 American Indian
Under 5 years	8	12
5-9	10	13
10-14	10	13
15-24	17	20
25-39	18	18
40-59	22	16
60 and over	14	8

Source: Bureau of the Census, 1970 data.

When compared by sex, American Indian population patterns parallel those of the total United States population: women represent 50.9 per cent of the American Indian population and 51.3 per cent of the total United States population.

Health

The health characteristics of American Indians are discussed below in terms of life expectancy, mortality and morbidity. In particular, these characteristics indicate that the American Indian population has a shorter life expectancy, a higher mortality rate and higher morbidity rates on a broad range of diseases than the general U. S. population.

Life Expectancy. Although the life expectancy of American Indians has improved in recent years, it is still significantly below that of the total United States population. As of 1970, the expected life span was 65.1 years for American Indians and 70.9 years for the total population. The following table shows the comparative rates and differences for births occurring in 1950, 1960 and 1970.

Year	Life Expectancy Of The Population (Years) American Indian	 Total United States	 Difference (years)
1970	65.1	70.9	5.8
1960	61.7	69.7	8.0
1950	60.0	68.2	8.2

Source: Indian Health Service, Office of Program Statistics and the Statistical Abstract Of the United States, (1975).

Mortality. The age-adjusted mortality rate for American Indians on or near reservations is about 1.2 times the comparable rate for the total United States population. Further, Public Health Service data indicate significantly higher mortality rates than the total United States population in the following areas:

- Tuberculosis, for which the American Indian mortality rate is 5.1 times that of the total United States population
- Alcoholism, for which the American Indian mortality rate is 6.1 times that of the total United States population
- Infant and maternal death, in which the American Indian mortality rates are, respectively, 13 and 45 per cent above the rate of the total United States population
- Infant post-neonatal death, in which the American Indian mortality rate is more than twice that of the total United States population.[3]

Higher mortality rates than the total United States population are also shown for accidents, influenza and pneumonia, diabetes and arterioclerosis. In addition, between, 1955 and 1975, there were increases in the mortality rates of American Indians for cirrhosis of the liver, suicide and homicide.

Morbidity. The major diseases affecting American Indians are otitis media (an infectious inflammation of the middle ear), gastroenteritis, strep throat, pneumonia, influenza, gonococcal infections, trachoma (a contagious viral disease of the eye), chicken pox, dysentery, infectious hepatitis and tuberculosis. As shown in the following table, for American Indians on or near the reservations, the incidence of many of these major diseases increased significantly from 1962 to 1975.[4]

Notifiable Diseases	1975 Incidence Rate Per 100,000 Population	Per Cent Change Since 1962
Otitis media	10,784	+ 184
Strep throat	6,786	+ 499
Pneumonia and influenza	6,107	+ 38
Infectious hepatitis	357	+ 85

Source: Indian Health Service, Office of Program Statistics.

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[3] Public Health Service, Indian Health Trends and Services (1975).

[4] Some of the increase in incidence rates may be attributable to improvements in the detection of these diseases.

Because of some differences in classification and reporting practices, it is difficult to compare American Indian morbidity rates to those of the total United States population. However, it is certain that American Indian morbidity rates for otitis media and trachoma are substantially above those for the general United States population, if only because these major diseases are infrequently diagnosed outside of the American Indian population. When reporting is comparable, the American Indians exhibit significantly higher morbidity rates than the total United States population for certain diseases, including:

- Tuberculosis, for which the American Indian rate is almost seven times that of the total United States population
- Dysentery and infectious hepatitis, for which the American Indian rates are, respectively, 42 and 12 times those of the total United States population.[5]

Data on the health status of urban Indians are limited. However, discussions with American Indians indicated a widespread view that the mortality and morbidity rates of the Indians in urban areas are similar to those of reservation Indians. The findings of two recent studies appear to support this view.

- During the period 1968-1970, the American Indians in Hennepin County (metropolitan Minneapolis, Minnesota) exhibited a significantly higher infant death rate than did the county's total population: the American Indians had 35.3 infant deaths per 1,000 live births, as compared to a rate of 22.9 for the total county population.[6]
- During the period October 1973 through 1974, the Seattle Indian Health Board reported that, for its urban Indian constituents, "the frequency of diagnosis of alcohol abuse, otitis media, and minor trauma, corroborates, in general terms, data available from the Indian Health Service on Indian health programs."[7]

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[5] Comptroller General of the United States, Progress and Problems in Providing Health Service to Indians (March 1974).

[6] McClearly, Deegan and Thompson, "Indian Health in Minnesota," Minnesota Medicine 2,56 (October 1973), 87-90.

[7] Seattle Indian Health Board, Data Analysis and Program Activities Report, July 1973-April 1974 (June 1974).

Education

Overall, the American Indian population is less well-educated than the general United States population. According to Census data, the education levels of the American Indians are significantly below those of the total United States population. Only 33.3 per cent of the American Indians over 25 years of age have completed high school, as compared to 52.3 per cent of persons over 25 in the total United States population. Among urban Indians the per cent of high school graduates was 43.5.

Because the school dropout rate for current American Indian students is not reported uniformly, it is difficult to derive. However, discussions with American Indian representatives indicate that this rate is probably at least 30 to 40 per cent. At that level, it would be significantly above that of the general population.

Economic Welfare

Overall, the American Indian population is economically poorer than the general United States population. According to Census data, the average income of American Indians is significantly lower than that of the total population. Per capita income for 1969 was $1,573 for American Indians, about half that of the total population, which was $3,119. Also, 38.3 per cent of all American Indians were below the poverty level, as compared to 12.6 per cent of the total population. Further, no data indicate that the economic plight of American Indians has improved markedly during the past 7 years.

The data indicate that the economic problems urban Indians experience are similar to those of Indians living on or near reservations. As an example, the per capita income of urban Indians in Oklahoma was 27 per cent below the average income of all persons in the state. Further, in California, Arizona and Michigan, urban Indian per capita income is, respectively, 33, 56 and 28 per cent below the state averages.[8]

MAJOR FEDERAL POLICY REGARDING THE AMERICAN INDIANS

Through treaty obligations and legislation, the Federal Government has established for itself a unique trust responsibility toward the American Indians. Federal policy-making for the American Indians began in 1849 with the transfer of the Bureau of Indian Affairs (BIA) to the Department of the Interior. However, it was not until 1911 that BIA earmarked appropriations specifically for health services to the Indians.

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[8] Bureau of the Census, 1969 data.

Subsequent legislative enactments, beginning with the Snyder Act of 1921, are significantly related to the present status of Indian health care. The Snyder Act initiated Federal Government involvement in meeting the health care needs of American Indians. Enacted during the period generally referred to as the "wardship policy" phase, it authorized the appropriation of funds for the benefit, care and assistance of American Indians and stated that such funding was to be used for the relief of distress and the conservation of health. According to congressional reports, the Snyder Act provides "the basic legislative statement of the Federal Government's obligation to provide health services to Indians."[9] Further, it established the Federal Government's responsibility, implemented through the Bureau of Indian Affairs, to serve all American Indians wherever they are located.

During the mid-1920s, the first commissioned officers of the Public Health Service were assigned to provide health services to the American Indians. Then, in 1934, the Indian Reorganization Act and the Johnson-O'Malley Act extended the New Deal to American Indians. Under charters approved by the Department of the Interior, the Indian Reorganization Act provided self-government to American Indian tribes. Complementing this, the Johnson-O'Malley Act authorized state governments to contract with the Federal Government to provide health and educational assistance to American Indians.

A major legislative step was taken in 1955 with the passage of the Transfer Act. Under this act, the Federal responsibility for the health care of American Indians was transferred from the Bureau of Indian Affairs to the Division of Indian Health of the Public Health Service.[10] As prerequisites for this transfer, the health care needs of American Indians were to receive priority over those of non-Indians, and the transfer had to be approved by the tribe for which any hospital was built or maintained.

The Indian Health Facilities Act of 1957 authorized IHS to contribute to community hospital construction costs when doing so would be a more desirable and effective method of providing needed hospital facilities for American Indians than would the direct construction of separate American Indian facilities. In 1959, the passage of the Indian Sanitation Facilities and Services Act expanded the scope of IHS programs by authorizing IHS to provide sanitation facilities to American Indians. In particular, as part of its responsibility to provide preventive health care, IHS was authorized to fund the construction of domestic-water and wastewater facilities for American Indians. Such sanitary engineering facilities are designed to remedy environmental deficiencies that affect American Indians living on or near reservations.

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[9] House of Representatives, Report of the Committee on Interior and Insular Affairs (April 9, 1976).

[10] In 1968, this division was renamed the Indian Health Service.

The programs of the Great Society years, especially those administered by the Office of Economic Opportunity, were extended to American Indian communities. These programs emphasized the development of reservation resources, including health programs.

Most recently, the Indian Self-Determination and Education Assistance Act of 1975 authorized IHS to transfer responsibility for the administration of health programs to American Indian tribes on a contract basis and to award grants for the planning, development and/or operation of health programs. This act also specified that the Federal Government is to provide educational services and opportunities to American Indians, enabling them "to compete and excel in the life areas of their choice, and to achieve the measure of self-determination essential to their social and economic well-being."

The Indian Health Care Improvement Act of 1976 further defines the Federal Government's responsibility for and commitment to the provision of all the resources necessary to improve the health status of American Indians. The Act states that:

> The Congress hereby declares that it is the policy of this Nation, in fulfillment of its special responsibility and legal obligations to the American Indian people, to meet the national goal of providing the highest possible health status to Indians and to provide existing Indian health services with all resources necessary to affect that policy. (Emphasis added)

This Act provides a 7-year plan for providing improved health care to American Indians, with funding for such areas as the construction and renovation of service facilities, the operation of direct patient care and other health programs, the establishment of contract programs for urban Indians and the establishment of recruitment and scholarship programs.

THE PRESENT SYSTEM FOR DELIVERING HEALTH CARE TO THE AMERICAN INDIANS

Health care is delivered to the American Indians primarily by IHS under the following set of stated responsibilities:

- To assist American Indian tribes in developing their capacity to man and manage health programs
- To facilitate and assist American Indian tribes in coordinating health planning, in obtaining and utilizing health resources available through Federal, state and local programs, in the operation of comprehensive health programs, and in health program evaluation
- To provide comprehensive health care services, including hospital care, preventive and rehabilitative services and development of community sanitation facilities
- To serve as the principal Federal advocate for American Indians in the health field to assure them of comprehensive health care.[11]

With a staff of 9,000 and an annual budget of $348 million (this budget is broken down in Exhibit II-3), IHS provides program services in patient care, ambulatory care and preventive health.

Under direct-care programs, IHS professionals provide health services in IHS facilities that are at or near reservations. These facilities include:

- 51 hospitals (with a total of 2,341 beds)
- 99 health centers with ambulatory care departments
- Several hundred health stations and locations.

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[11] *Federal Register* 36, 51 (March 16, 1971).

EXHIBIT II-3

INDIAN HEALTH SERVICE BUDGET
(Fiscal Year 1977)

Program Area	Amount Budgeted
Patient Care	
Hospital care	$115,140,000
Contract care	63,523,000
Ambulatory Care	64,121,000
Preventive Health	
Field medical service	72,497,000
Dental	11,217,000
Sanitation	10,332,000
Public health nursing	5,549,000
Health education	2,434,000
Program Management	3,717,000
Total	$348,530,000

Source: Indian Health Service, Revised Justification For Appropriations, Fiscal Year 1978.

Exhibit II-4 lists the 51 hospitals, by state, at or near reservations and shows the number of beds and accreditation status of each. Only 29 of the 51 are accredited by the Joint Commission on Accreditation of Hospitals (JCAH), and only one hospital has residency programs.[12]

The direct-care programs IHS provides include acute hospital and medical care, preventive health services, services for psychiatric patients, dental services, eye care and prescription drugs. The IHS staff for these programs includes a total of 522 physicians, 208 dentists and 1,404 registered nurses.

Under urban health programs, IHS purchases health services from professionals and facilities in locations where IHS resources are inadequate. Currently, approximately 30 projects are extending health care referral and outreach services to urban American Indians throughout the United States (these projects and their locations are shown in Exhibit II-5). Approximately 10 of these projects have evolved into health care clinics.

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[12] Under a consortium arrangement, the Phoenix Medical Center has residency programs in surgery, obstetrics/gynecology, pediatrics and internal medicine.

EXHIBIT II-4

INDIAN HEALTH SERVICE HOSPITALS, BY STATE

State/City	Number Of Beds
ALASKA (9)	
Anchorage (b)	170
Barrow (b)	13
Bethel (b)	42
Kanakanak (b)	29
Kotzebue (b)	26
Mt. Edgecumbe (b)	82
St. George Island	0
St. Paul Island	8
Tanaha (b)	20
ARIZONA (10)	
Ft. Defiance (b)	76
Keams Canyon (b)	38
Parker	20
Phoenix (b)	191
Sacaton (b)	30
San Carolos (b)	36
Sells (b)	40
Tuba City (b)	125
Winslow	40
White River (b)	38
CALIFORNIA (1)	
Whitehaven	19
MINNESOTA (2)	
Cass Lake (b)	24
Red Lake (b)	30
MISSISSIPPI (1)	
Philadelphia	40
MONTANA (3)	
Browning (b)	34
Crow Agency (b)	34
Harlem	18

State/City	Number Of Beds(a)
NEBRASKA (1)	
Winnebago	50
NEVADA (2)	
Owhyee	17
Schurz	26
NEW MEXICO (7)	
Albuquerque (b)	64
Crownpoint	56
Gallup (b)	181
Mescalero	15
Santa Fe	35
Shiprock (b)	75
Zuni (b)	35
NORTH CAROLINA (1)	
Cherokee	26
NORTH DAKOTA (2)	
Belcourt (b)	50
Ft. Yates	32
OKLAHOMA (6)	
Claremore	40
Clinton	14
Lawton (b)	52
Pawnee	14
Tahlequah (b)	40
Talihina (b)	52
SOUTH DAKOTA (6)	
Eagle Butte	33
Pine Ridge (b)	58
Rapid City (b)	54
Rosebud	41
Sisseton	32
Wagner	26

(a) As of June 30, 1976.

(b) Accredited by the Joint Committee on Accreditation of Hospitals as of March 31, 1977.

INDIAN HEALTH SERVICE CONTRACT CARE PROJECTS, BY STATE

Project	Location
CALIFORNIA (Under the California Urban Indian Health Council, Inc.)	
California Rural Indian Health Board	Carmichael
Indian Free Clinic, Inc.	Huntington Park
Sacramento Urban Indian Health Projects, Inc.	Sacramento
Santa Barbara Urban Indian Health Project, Inc.	Santa Barbara
Native American Health Center	San Francisco
American Indian Free Clinic, Inc.	Compton
Indian Health Center of Santa Clara Valley, Inc.	San Jose
American Indian Health Clinic	San Diego
COLORADO	
Denver Native American United	Denver
ILLINOIS	
American Indian Health Services	Chicago
KANSAS	
Mid-America Indian Center	Wichita
MICHIGAN	
Detroit American Indian Center	Detroit
MINNESOTA	
Indian Health Board of Minneapolis	Minneapolis
MONTANA (Under the Montana United Indian Association)	
Billings American Indian Council	Billings
North American Indian Alliance	Butte
Great Falls Indian Education Center	Great Falls
Helena Indian Alliance	Helena
Missoula Qua-Qui Corporation	Missoula
Hi-Line Indian Alliance	Harve

EXHIBIT II-5
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Project	Location
NEBRASKA	
United Indians of Nebraska	Omaha
OKLAHOMA	
Oklahoma City Urban Indian Health Project	Oklahoma City
Indian Health Care Resource Center	Tulsa
OREGON	
Urban Indian Council, Inc.	Portland
TEXAS	
Dallas Inter-Tribal Center	Dallas
WASHINGTON	
Seattle Indian Health Board	Seattle
Native American Center	Spokane
WISCONSIN	
Milwaukee Indian Health Board	Milwaukee
Green Bay Urban Health Project	Oneida

Source: Indian Health Service.

III - ASSESSMENT OF NEEDS

This chapter presents an assessment of the health care delivery and health career needs of the American Indians.

A - AMERICAN INDIAN HEALTH CARE DELIVERY NEEDS

This section discusses American Indian needs for health care delivery and the barriers to improvement.

PRESENT STATUS

Because of significant shortages in manpower, facilities and services, the health care delivery needs of the American Indians are not being met.

Health Manpower

IHS is the primary provider of health care services to American Indians residing on or near reservations[1] and an important provider of services to American Indians in certain urban areas. As of May 31, 1977, the total IHS staff consisted of 522 physicians, 208 dentists and 1,404 registered nurses for a service population estimated at 538,000 people.[2] This level of health professionals in IHS appears to be insufficient for the delivery of health care to the American Indians. Using comparative physician population ratios, it can be seen that the American Indians served have:

- One physician per 1,031 persons, as compared to a one to 603 ratio for the total United States population

- One dentist per 2,587 persons, as compared to a one to 2,091 ratio for the total United States population

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[1] The IHS staff is, in fact, supplementing traditional Indian medicine practitioners and a very small number of private physicians located on or near the reservations.

[2] The service population is the number of American Indians residing within the 88 designated IHS service units (in 356 counties in 25 states).

- One registered nurse per 383 persons, as compared to a one to 246 ratio for the total United States population.[3]

Further, the demands placed on the IHS physicians are above average because of the Americans Indians' high utilization of their services. As an example, the number of outpatient visits per person (which impacts physician workload) is 24 per cent higher for American Indians than for the total United States population.

The magnitude of the shortage of health professionals can be alternatively expressed as the additional number currently needed to bring the American Indian population served in line with the total United States population. Using the data on physician-population ratios to achieve parity, IHS would need to have the following increases in personnel:

- 370 additional physicians, an increase of 71 per cent above current levels
- 49 additional dentists, an increase of 24 per cent above current levels
- 783 additional registered nurses, an increase of 56 per cent above current levels.

IHS's capability to recruit and retain health professionals has changed significantly in recent years. For example, whereas in 1971 almost 70 per cent of the IHS physicians and dentists were with IHS in lieu of military service, at present (5 years after the ending of the "doctor draft") it is estimated that fewer than 5 per cent of the IHS physicians are in IHS in fulfillment of their military obligation. Also, a major new source of potential recruitment, the PHS Scholarship Program, is just now beginning to impact the supply of new physicians for IHS (with these persons serving for a minimum 2- and 3-year periods). Under this program about 80 physicians began serving in IHS July 1, 1977, and this inflow of physicians will probably remain at 70 to 90 per year under the program's present scope. These physicians are not likely to stay in IHS permanently, but it is anticipated that they will staff from 180 to 220 positions continuously. Further, in an effort to increase the retention rate of the IHS physicians and dentists, the

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[3] Statistics on the American Indians are based on IHS estimates of its service population and the actual number of health professionals employed by IHS as of September 30, 1976. Statistics on the United States population are based on Bureau of the Census estimates of United States total population and on the U. S. Department of Health, Education and Welfare's estimates of the number of active physicians, dentists and nurses in the United States.

Variable Incentive Pay Program was implemented when the doctor draft ended. Under this program, bonuses are given to health professionals who serve in IHS without formal obligation. IHS is reviewing the impact of these changes and expects to complete a summary evaluation by September 1977.

Because of the various program changes, it is difficult to project the number of health professionals that IHS will be able to recruit in future years. It should be noted, however, that IHS's current intent is to have a staff of only 653 physicians (25 per cent above current levels) by 1981.

Health Facilities

IHS has 51 hospitals and various health centers and clinics dispersed over areas that have significant American Indian service populations. However, the effectiveness of these facilities has been inhibited by inadequacies in physical structure and staffing. Twenty-two of the hospitals do not have JCAH accreditation, many because of manpower shortages or failure to meet fire and safety standards. According to IHS, to be adequately staffed, its existing hospitals and field clinics would require a total of 2,000 more persons (including health professionals and nonprofessionals). At eight IHS hospitals this would include at least doubling current staff size.[4]

Also, surveys of a number of IHS hospitals conducted between 1969 and 1974 by the Office of Facilities Engineering and Property Management, DHEW, found that 33 of the IHS hospitals could be classified as requiring major modernization or complete replacement. Comments from these surveys include:

- IHS hospitals in Pine Ridge, South Dakota (1970): "Continued use of the facility for an extended period should not be planned without correcting the serious fire safety and environmental hazards"

- IHS hospital in Rosebud, South Dakota (1973): "The age and structural condition of the 1915 wing negate any correction work. The structure is of combustible frame, narrow corridors, narrow stairs, structurally deteriorating, cracks in walls, etc."

- IHS hospital in Santa Fe, New Mexico (1970): "This facility definitely represents an unsafe hospital environment not only from its many fire safety deficiencies, but also the many deficiencies relating to patient care. Further, the existing condition of the bearing walls and load bearing beams constitutes a hazard to the structure and occupants"

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[4] Statements by the director of IHS before congressional hearings in 1976.

- IHS hospital in Winslow, Arizona (1973): "With the known seismic activity in the Flagstaff-Winslow region and the inadequacy of the structure to withstand same, it becomes obvious that the building must be abandoned and replaced"[5]

In response to problems in these and other facilities, under Title III of the Indian Health Care Improvement Act, Congress passed a 7-year facilities plan that provides for the replacement, modernization or repair of about 40 IHS hospitals over the 1977-1983 period. To date, however, funding for the Act has not been authorized, and, accordingly, it is not as yet possible to assess the impact this legislation will have.

As discussed in Chapter II, there is a widespread view that the mortality and morbidity rates of urban Indians are similar to those of reservation Indians. In an effort to address the health care needs of the urban Indians, IHS contracts (through community Indian organizations) for the operation of about 11 urban clinics, which are used primarily by urban Indians. The services of these clinics vary from the use of volunteer physicians with limited equipment to the use of full-time physicians and dentists with access to lab and X-Ray equipment. The urban Indians also have access to certain IHS hospitals located in urban centers (e.g., Phoenix and Albuquerque) and to the regular hospital facilities of urban centers used by the general population.

In addition, IHS attempts to inform American Indians about available health care services. IHS funds some 30 urban health centers for referral and outreach programs in order to facilitate the knowledge of services and understanding of eligibility.

Volume Of Health Service And Utilization Of Health Facilities

The volume of health services provided to American Indians and use of health facilities by American Indians on or near the reservations are outlined below for inpatient, outpatient and dental services.

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[5] U. S. Department of Health, Education and Welfare, Office of Facilities Engineering and Property Management.

Inpatient Services. American Indians living on or near the reservations have access to primary, emergency, outpatient and some secondary care at IHS facilities. For referrals (i.e., secondary and tertiary care) and some emergencies, they are also able to use non-IHS facilities such as community hospitals. In such cases, IHS approves the admission and then funds the services through contractual arrangements. There were 106,461 hospital admissions of American Indians in 1976, according to IHS data. An estimated 18 per cent of the admissions were due to complications of pregnancy, childbirth or puerperium; another 15 per cent were due to accidents, poison or violence.

The utilization rate of 19.8 per 100 persons in the service population has been relatively constant since 1976. However, it is somewhat above the estimated rate of 16.5 per 100 persons for the total United States population.[6] About 72 per cent of the American Indian admissions are in the IHS hospitals, with the remainder in contracted facilities.

Outpatient Services. In 1976 there were 2,752,000 American Indian outpatient medical visits to the various IHS hospitals and field clinics. The utilization rate of 5.1 visits per person has increased significantly from the level of 3.2 visits in 1966. The current level is somewhat above the total United States population's average of 4.1 visits per person (including visits to physician offices, hospital outpatient clinics, emergency rooms and homes).

Dental Services. The provision of dental services to American Indians has also increased in recent years. About 975,600 dental procedures were provided in 1976, representing an estimated eight procedures per person examined. The level of services provided has increased by 94 per cent since 1966. However, IHS has estimated that even at this current level, about 60 per cent of the total service population requirements are not being met.

HEALTH CARE DELIVERY BARRIERS

The primary barriers toward meeting the health care delivery needs of the American Indians are listed in Exhibit III-1 and discussed below.

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[6] Statistics on the American Indians are based on IHS estimates for 1976. Statistics on the United States population are 1975 estimates from the National Center for Health Statistics.

EXHIBIT III-1

EXISTING HEALTH CARE DELIVERY BARRIERS

- Insufficient level of authorized positions for IHS professionals
- Shortage of American Indians trained as physicians
- Cultural differences between the American Indian population and the non-Indian health professionals
- Overburdening of the existing IHS health professionals
- Discrimination and misunderstanding of the American Indians' eligibility for services
- Difficulties in retaining non-Indian health professionals in IHS
- Termination of the doctor draft and its stable pool of health professionals

Insufficient Level Of Authorized Positions For IHS Health Professionals

The adequacy of health care delivery to the American Indians depends on IHS's receiving authorization for a sufficient number of positions for health professionals. Obtaining a sufficient authorization then allows IHS, with adequate resources, to generate the training, recruitment and retention programs necessary to meet the objectives established.

As noted earlier, the present staffing levels of IHS appear to be inadequate. The staff of 522 physicians provides only one physician for every 1,031 persons (as opposed to one to 603 for the total United States population); differences of a similar magnitude also exist for dentists and registered nurses. Even IHS's immediate achievement of a one to 800 ratio for physicians would require a 28 per cent increase in the number of positions for 1976-77.

Further, the present IHS projections of the number of physicians it needs, which will serve as recruitment and retention targets, appear to be inadequate to meet the health care needs of the American Indians. Should the service population grow by 3 per cent per year (as it has over the last 5 years), it will reach 626,000 persons by 1981. The IHS projected need of 653 physicians by 1981 will (assuming no vacancies) provide a ratio of 959 persons per physician. However, this ratio is only a minor improvement from the present ratio because the increase in projected need is designed to meet the population increases rather than to improve the level of care significantly.

The achievement of a one to 800 ratio by 1981 would require an IHS staff of 782 physicians, or 20 per cent above the level that IHS is now seeking to achieve. Further, with the existing programs geared to a level of understated needs, it appears that a series of new and/or expanded existing programs would then be needed. Should an increased level of need be authorized, the next task is to translate this authorization into actual staffing increases. Given the resources, increased staffing could be achieved. In particular, because the current vacancy rates are quite low (9 per cent for physicians, 2 per cent for dentists, and 11 per cent for registered nurses), the current level of authorized positions appears to be generally attainable through existing efforts. As well, it is expected that, with adequate funding, future needs could be met through the development of new programs or the expansion of existing programs. As an example of the latter, it is understood that the PHS Scholarship Program now serving as a primary source of health professionals for IHS has many more applicants for its scholarship aid than recipients. Accordingly, the use of greater resources through a program expansion could be seen as leading to the production of more "short-term" physicians.

Shortage Of American Indians Trained As Physicians

The shortage of trained American Indian physicians impacts on the ability to provide health care to both reservation and urban American Indians. The magnitude of this shortage is illustrated by the fact that the ratio of American Indian physicians to the American Indian population is almost 19 times smaller than the comparable number for the total United States population.

As a result, IHS has had to rely on the recruitment of non-Indians to fill its health professional staffing requirements. As shown in the following table, American Indians represent only one per cent of the physicians,[7] less than one per cent of the dentists and only about 19 per cent of the registered nurses in IHS.

		American Indians	
Position	Total In IHS	Number In IHS	Per Cent Of IHS Total
Physician	492	5	1.0
Dentist	178	1	0.6
Registered Nurse	1,248	232	19.6

These statistics also indicate that, to date, urban Indians trained as physicians practice medicine in the urban environment, rather than in the facilities of IHS.

Cultural Differences Between The American Indian Population And The Non-Indian Health Professionals

The Indians frequently site cultural differences between the American Indian population and the non-Indian IHS professionals as a barrier to the meeting of the health care needs of the American Indians. In particular, the non-Indian health professionals often do not understand Indian culture and its impact on health care delivery. The intimacy of religion and medicine is often overlooked by the non-Indian health professionals. Also, these professionals often neglect the role of traditional medicine in the American Indian community. The differences in values can lead to a significant divergence in perceptions and viewpoints between the American Indian and non-Indian parties.

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[7] All five of the American Indian physicians serve primarily in administrative capacities rather than as providers of direct patient care.

Overburdening Of The Existing IHS Health Professionals

The significant shortage of health professionals has resulted in the overburdening of the persons who are already in IHS. Many of these health professionals, overworked in terms of patient load and hours of service, eventually choose to leave the program.

Discrimination And Misunderstanding Of The American Indians' Eligibility For Services

It is understood that, particularly in urban centers, a significant number of American Indians are frequently denied access to public health care facilities they could use. Denial of access has often been attributed to such factors as outright discrimination, including statements to the effect that American Indians should use IHS facilities only; the lack of personal funds for health care; the general lack of participation in private insurance plans; the absence of Medicaid programs in certain states, such as Arizona, and the frequent misunderstanding by all parties regarding the Medicare and Medicaid eligibility of American Indians. Also, because these health care facilities are not familiar with American Indian problems, American Indians who do use them frequently have negative experiences there.

Difficulties In Retaining Non-Indian Health Professionals In IHS

It is estimated that only 20 per cent of the IHS physicians are career IHS physicians. This helps to explain the annual IHS physician turnover rate of about 27 per cent. High annual turnover rates are also shown by IHS dentists (24 per cent) and registered nurses (30 per cent). These turnover rates impact on the delivery of health care services significantly. They tend to perpetuate the existing shortage, and they create a lack of continuity that inhibits the development of relationships and trust between the physicians and the Indian patients. A number of reasons are generally cited for the retention problems, including:

- Difficult working conditions. In addition to the staff shortage and the resultant overburdening, many of the IHS hospitals consist of obsolete facilities with inadequate equipment and support staff.

- Difficult living conditions. This problem was recently summarized by the director of IHS: "The majority of Indian Health Service facilities are located in remote and isolated regions of the United States where it is not uncommon to drive 50 miles to shop in a small town supermarket. Recreation facilities to which the majority of the staff who come from larger population areas are accustomed, such as theatre, civic and social events, and other organized recreation, are almost non-existent. The educational facilities available to the children of the hospital staff are sometimes less effective than those in larger metropolitan areas .... Employees at remote, isolated locations do not have a selection of housing units because housing does not exist in significant numbers. The Indian Health Service employees themselves cannot have housing built because there is a limited opportunity for resale and the nonavailability of deeded land generally disqualifies them for any home financing programs. The only avenue open is to locate in a small non-Indian community of the Federal reservation and commute to their duty station."[8]

- Lack of other physicians and continuing education opportunities. This limits IHS physicians' ability to consult (and share the workload) with other physicians, to pursue their specialty and to maintain their skills through a continuing education program.

- Lack of hospital accreditation. The lack of accreditation of many of the IHS hospitals inhibits IHS's ability both to recruit and to retain its physician staff. In particular, physicians who are seeking board-certified accreditation can only accumulate time toward this in an accredited hospital.

Termination Of The Doctor Draft And Its Stable Pool Of Health Professionals

The elimination of the doctor draft in 1972 ended what had been a stable source of short-term health professional manpower for IHS. While the draft existed, physicians and dentists completing their medical and dental school training could serve their Selective Service obligation of 2 years in IHS (or PHS) rather than in the military service. The alternative of serving in IHS was of sufficient attraction that the number of applicants generally exceeded the number of available funded positions (although the number of funded positions was still significantly below the number required to meet the health care needs of the Indians).

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[8] Statements by the director of IHS before congressional hearings in 1976.

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B - AMERICAN INDIAN HEALTH CAREER NEEDS

This section discusses the present status of health career opportunities for American Indians and the barriers toward increasing these opportunities.

PRESENT STATUS

The number of American Indians trained as health professionals is very small compared to the total United States population. There are only 79 American Indian physicians.[9] This is 19 times lower than the proportional number of physicians in the total U. S. population.

According to the AAMC, in the academic year 1976-77 there were 186 American Indian medical students (43 in the first year). As shown in Exhibit III-2, total American Indian enrollment in medical schools increased in the last 5 years from 69 to the present level of 186; first-year enrollments over this period reached a peak of 71 in 1974-75 but have since declined to 43. However, even by 1982, the number of American Indian physicians will still be seven to eight times lower, based on population, than the proportional number of physicians in the total United States population.

The enrollment of American Indians is dispersed over 63 of the 116 medical schools in the United States. The leading schools in which American Indian students are enrolled are the University of Oklahoma (22), the University of North Dakota (10), the University of North Carolina (9), Stanford University (8) and the University of Colorado (8).[10]

The table on page II-12 shows the extent to which American Indians and other minority students are enrolled in United States medical schools. The 186 American Indian students represent 0.32 per cent of the total medical school enrollment.

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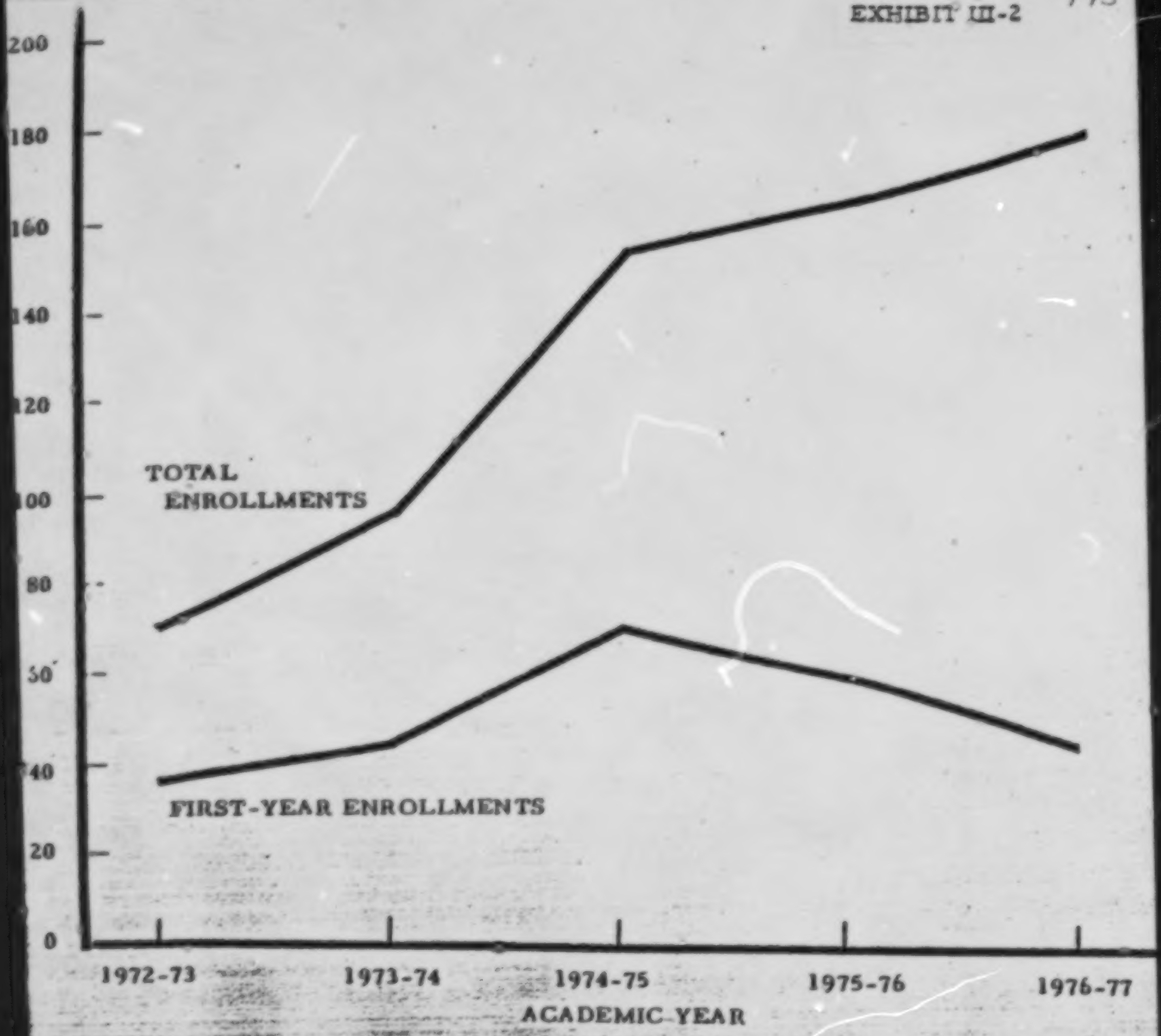
[9] According to a survey by the Association of American Indian Physicians, 1976.

[10] Association of American Medical Colleges data, (November 1976).

EXHIBIT III-2



Source: AAMC data (November 1976).

	Students Enrolled In Medical School - Fall 1976	
Group	Number	Per Cent Of Total
White/Caucasian	50,701	87.8
Black/Afro-American	3,517	6.1
Oriental/Asian-American	1,177	2.0
Mexican-American/Chicano	780	1.4
Puerto Rican (Mainland)	232	0.4
AMERICAN INDIAN	186	0.32
Cuban-American	165	0.3
Foreign Students	745	1.3
Other Minorities	262	0.5
Total	57,765	100.0

Source: Association of American Medical Colleges data. (November 1976).

Since American Indians represent 0.42 per cent of the total United States population, it can be seen that the Indians are underrepresented by about 58 medical school positions.[11] It should also be noted that the proportion of the American Indians in the 1976-77 first-year class is down to 0.28 per cent of the total United States population (from a peak of 0.48 per cent 2 years earlier).

At the same time, the percentage of the American Indian applicants who are accepted to medical school compares favorably with other groups. As shown in the following table, 43.2 per cent of the American Indian applicants were accepted, as opposed to 36.3 per cent of all applicants.

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[11] Black/Afro-Americans, Mexican-American/Chicanos and Puerto Ricans are also underrepresented in terms of medical school enrollment.

Group	Per Cent Of Accepted Applicants (1975-76 First Year Class)
Mexican-American/Chicano	51.5
AMERICAN INDIAN	43.2
Puerto Rican (Mainland)	42.6
Black/Afro-American	41.3
White/Caucasian	37.2
Puerto Rican (Commonwealth)	36.2
Oriental/Asian-American	31.7
Cuban-American	31.7
All Applicants	36.3

Source: Association of American Medical Colleges, Descriptive Study Of Medical School Applicants, 1975-76.

Upon being accepted to the medical schools, American Indian students exhibit a rate of retention similar to that of other underrepresented minority groups (Black/Afro-Americans, Mexican-American/Chicanos and Puerto Ricans). In particular, of the students admitted in 1973-74, 89 per cent of the American Indian students were still in medical school as of June 1976; this compared to 88 per cent of all students from underrepresented minorities and 97 per cent of all other students. At the same time, in comparison to other underrepresented minorities, a lower proportion of American Indian students had to repeat their academic year. In 1975-76, 5.7 per cent of the American Indian students were repeating the year, compared to 8.2 per cent for the other underrepresented minorities.[12]

HEALTH CAREER BARRIERS

The primary barriers toward meeting the health career needs of the American Indians are listed in Exhibit III-3 and are discussed below.

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[12] Statements by the director of IHS before congressional hearings in 1976.

EXHIBIT III-3

EXISTING HEALTH CARE CAREER BARRIERS

- MCAT scores of applicants
- Limited number of medical school positions available
- Certain institutional and personal barriers facing American Indians

MCAT Scores Of Applicants

The average Medical College Admissions Test (MCAT) score[13] of 505 for the American Indian applicants was somewhat below the 554 average of all applicants for the 1975-76 first-year medical school class.[14] As shown in the table below, 132 American Indian applicants scored below the Whites/Caucasians (83 per cent of the applicants) and the Orientals/Asian-Americans, about the same as the Cuban-Americans and the Mexican-Americans/Chicanos and above the other underrepresented minorities.

Group	Mean MCAT Score For Medical School Applicants (1975-76 First-Year Class)
White/Caucasian	566
Oriental/Asian-American	553
Cuban-American	510
AMERICAN INDIAN	505
Other Underrepresented Minorities (Black/Afro-American, Mexican-American/Chicano and Puerto Rican)	455
All Applicants	554

Source: Association of American Medical Colleges, Descriptive Study Of Medical School Applicants, 1975-76.

Limited Number Of Medical School Positions Available

American Indians and other minority groups have been constrained in their ability to train physicians by the limited number of medical school positions available. In particular, the number of openings in the United States for 1976-77 was 15,613, up only 14 per cent from 4 years earlier.

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[13] "Average MCAT score" refers to the mean score of the four MCAT subtests: verbal ability, quantitative ability, general information and science.

[14] MCAT scores, grade point average and personal interviews are the primary factors determining admission to medical school.

Should more medical school positions become available, it would appear that the pool of prospective American Indian medical students is sufficiently large to fill them. The average MCAT score for the 75 American Indian applicants who were not accepted to medical school was basically equivalent to the average MCAT score for the applicants of other underrepresented minorities who were accepted. The following table displays this, using the 1975-76 data from AAMC:

Group	Mean MCAT Scores For Medical School Applicants (1975-76 First-Year Class)
AMERICAN INDIANS applicants not accepted	492
Other Underrepresented Minorities applicants who were accepted	498

Certain Institutional And Personal Barriers Facing American Indians

A number of institutional and personal barriers tend to inhibit the orientation of American Indians toward careers as a health professional. These barriers have been reviewed extensively in previous studies. Some of the major considerations are summarized below:

- Precollege educational programs do not provide an orientation for the health professions. Teachers are often poorly qualified to instruct in the academic areas that are prerequisites for acceptance into premedical school programs, curricula often do not include advanced science and mathematics courses, and facilities (especially laboratories and libraries) are often inadequate to support instruction.

- American Indian students often receive ineffective career counseling toward health professional careers. Further, the counseling that is received is often obtained too late in their educational development for them to pursue such careers.

- Unusually close ties to home, a personal characteristic of most Indians, deters American Indian youth from going to college. Associated with this is the limited number of undergraduate colleges and universities in or near American Indian areas and the even smaller number of health professional schools in or near these areas.

- Competition from other professions in recruiting talented American Indian students has been substantial. Teaching interests have been the major competitors of health career interest, and law schools have intensified their recruitment efforts in the last several years.

- The costs associated with health professional training are high and must be met over a substantial period of time.

- Other than for the INMED program,[15] there appears to be no systematic method of identifying American Indian applicants who have potential in the health area and bringing them to the attention of health professional schools.

- Conflicts between modern medical technology and American Indian religious beliefs sometimes constitute a deterrent.

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[15] INMED (Indians Into Medicine) is a program that is affiliated with the University of North Dakota. The program identifies, recruits and counsels American Indian students for medical education including the premedical and undergraduate medical schooling years.

IV - PROGRAMS FOR ADDRESSING THE NEEDS OF THE AMERICAN INDIANS

This chapter outlines a comprehensive set of four programs for addressing the various health care delivery and health career needs of the American Indians. This set of programs is oriented toward educating American Indians as health professionals so that they can extend health care services to the American Indian communities. The four programs are:

- Establishment of a medical school for American Indians
- Provision of spaces for American Indians at existing medical schools
- Establishment of comprehensive precollege and pre-medical school programs for American Indians
- Expansion of scholarship programs for American Indians.

Establishing a medical school for American Indians represents a unique opportunity to train American Indian students as physicians for the provision of direct health care to American Indian patients. Establishment of such a medical school will ensure that adequate numbers of qualified American Indians can become physicians, will reduce American Indian dependence on non-Indians for health care, will provide a medical training program geared to the different cultures and religions of the American Indian population, and will provide a center for substantive research on American Indian diseases.

Providing spaces for American Indians at existing schools is a stop-gap measure for continuing the training of American Indians as physicians until a medical school for American Indians can be established.

Establishing comprehensive precollege and premedical school health programs for American Indians is designed to locate and provide to American Indian students preparatory training for the health professions.

Expanding scholarship programs will ensure that the financing necessary for the training of American Indian students is available.

These programs are not discrete, mutually exclusive answers to the very serious health care delivery and health career problems of the American Indians. Rather, they are complementary and should be viewed as interrelated approaches to meeting these needs.

These programs could be established within the context of the Federal Government's unique trust responsibility for American Indians. While each program will need Federal financial support, a precedent has been set by the educational support provided to the American Indians under the Federal Government's trust relationship.

In the remainder of this chapter, these programs and their relationship to the needs of the American Indians are discussed briefly.[1] Each program is reviewed and assessed against its impact on the:

- Health care delivery needs of American Indians
- Health career needs of the American Indians
- American Indians' desire for increased self-determination.

ESTABLISHMENT OF A MEDICAL SCHOOL FOR AMERICAN INDIANS

The establishment of an American Indian medical school is a unique approach to meeting the health care delivery and health career needs of the American Indians. It involves the development and operation of a fully accredited institution that will provide medical education and training to American Indian students. The traditional medical curriculum could be combined with areas of study relevant to the American Indian cultures.

In addition, students would have the opportunity to receive their clinical training in hospitals and other facilities serving American Indian patients. Graduates of the medical school would be able to complement their training in current medical techniques with knowledge and appreciation for the cultural and medical practices of the American Indians. The establishment of such a medical school would expand significantly for American Indians, especially for those people living on reservations and in rural areas. The cultural barriers American Indian students face in adapting to the non-Indian medical school environment would be reduced and a center for discussion of and research on the issues surrounding American Indian health care would be established. Attendant educational facilities that would produce other health professionals would, over the longer term, probably be developed. The principles of American Indian self-determination, including the Indians' assumption of an integral role in the school's development and operation (i.e., by a group of pan-Indian representatives), would be maintained.

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[1] A comprehensive analysis of the feasibility of an American Indian medical school, the first of the four programs outlined here, is contained in Chapter V.

Although a number of positive factors clearly favor an American Indian medical school, some difficult questions need to be considered:

- Will the school be able to obtain the necessary faculty, student body and financing?
- Are the necessary facilities available?
- What is the expected cost of operation?

These and other issues are discussed in Chapter V, which evaluates the feasibility of an American Indian medical school.

Given the time required to develop a medical school, provide four undergraduate years of medical education and have students complete a minimum of three years of postgraduate education, it will be at least 1987 before this program can produce American Indian physicians. The health care delivery needs of the American Indians will therefore have to be met by other means over the intervening 10 years.

The extent of impact the medical school will have on the delivery of health care to the American Indians living on or near the reservation should be kept in perspective. Even using optimistic assumptions, only about 15 physicians out of each graduating class of 32 are likely to practice medicine on or near the reservation permanently.[2] In fact, the primary impact on these areas will come from the graduates serving there under an obligation associated with admission to the school. If a 3-year obligation were established, a total of 175 physicians from the medical school would be practicing on or near the reservations by 1995;[3] slightly over half of these would be practicing in these areas under an obligation status. At the same time, however, should a medical school prove to be successful, there will probably be opportunities to expand the class size and thus increase the school's impact on American Indian needs.

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[2] Assuming that the medical school class will contain 32 students, roughly split into 45 per cent reservation Indians, 45 per cent urban Indians and 10 per cent non-Indians, and that 70 per cent of the reservation Indians, 30 per cent of the urban Indians and 20 per cent of the non-Indians will decide to locate on or near the reservation permanently, while the others go to urban and non-Indian areas.

PROVISION OF SPACES FOR AMERICAN INDIANS AT EXISTING MEDICAL SCHOOLS

The provision of student spaces for American Indians at existing medical schools could take either of two forms:

- A voluntary reservation of spaces for American Indian applicants at one or more of the existing medical schools
- A direct purchase by the Federal Government of spaces for American Indian applicants at one or more of the existing medical schools.

The concept of a voluntary reservation of spaces would be similar to the present setting aside of spaces for various minority groups at existing medical schools. The only formal set-aside currently involving American Indians is in conjunction with the Indians Into Medicine program (discussed later); under this arrangement, five positions are designated each year for American Indian applicants at the University of North Dakota medical school. Other minority groups have received formal and informal set-asides at other medical schools. For example, 40 per cent of the positions at the University of New Mexico medical school are set aside for Mexican-Americans/Chicanos.

The concept of the Federal Government's direct purchase of positions and their set-aside for American Indians would be a new arrangement for both parties. Under this concept, the Federal Government would provide the school with the full and total cost of each American Indian medical student's education. To reduce controversy over the appropriateness of a direct Federal purchase, this action should be considered only within the context of the Federal Government's unique trust responsibility for the American Indians.

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[3] Assuming a medical school class of 32 students beginning in 1980, with the first class available to practice in 1987, the previous factors on class composition and ultimate retention; and a 5 per cent annual attrition factor for the remaining graduates who decide to locate on or near the reservations permanently.

Such provision of spaces for American Indians will increase the availability of medical school positions for the training of American Indians to some extent. However, although the per student cost of such a program would be about equal to that associated with an American Indian medical school,[4] providing spaces for American Indians at existing medical schools is unlikely to meet either the health care delivery or the health career needs of the American Indian population. First, providing spaces for American Indians at existing medical schools would not provide a framework encouraging American Indian students to return to the reservation areas to practice medicine. Second, neither orientation toward Indian health care problems nor a direct link to the reservations through clinical facilities or other means would be provided. In addition, the acculturation problem of the American Indian students would remain. In setting aside for American Indians positions at existing medical schools, legal and institutional impediments would need to be overcome:

- An unfavorable interpretation of the Federal Government's unique trust responsibility for the American Indians would inhibit the sponsorship of such positions

- Existing medical schools have not demonstrated an interest in allocating more spaces now or in the future, for the exclusive use of American Indians

- Within the boundaries of their academic freedom, medical schools cannot be compelled by the Federal Government to provide spaces for American Indian students

- Most medical schools assert that their present operations are at capacity and that additional spaces would require physical expansions that may not be possible in the near future.

Although some of these impediments might be overcome with Federal dollars and by counseling with the medical schools, it appears unlikely that more than five or ten new positions for American Indians could be established. Because such a small number of new positions would not impact the needs of the American Indians significantly, this program can be considered only an interim approach until an American Indian medical school could be established.

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[4] This is supported by data analyzed in "New Resources for Medical Education: Start-Up Expenditures in 22 New U. S. Medical Schools," Journal of Medical Education 47 (September 1972).

ESTABLISHMENT OF COMPREHENSIVE PRECOLLEGE AND PREMEDICAL SCHOOL PROGRAMS FOR AMERICAN INDIANS

The precollege and premedical school phases of education are important in generating a qualified pool of medical school applicants. Medical education can be viewed as a lengthy process encompassing the basic arithmetic and language training in elementary school, the preparatory education provided in high school, undergraduate premedical training and medical school training and culminating in postgraduate medical training and continuing education programs. However, the various institutional barriers discussed earlier hinder the establishment of a significant pool of American Indian students.

A comprehensive precollege and premedical school program for American Indians that locates and trains American Indian students for the health professions may overcome a number of these barriers. A meaningful ongoing program in this area is Indians Into Medicine (INMED), a program coordinated with the University of North Dakota that seeks to "train professional health personnel drawn from the Indian population who will provide health services that are acceptable to the Indian community." To introduce elementary students to health career opportunities, INMED developed a presentation geared to grade school children and gave it in Indian communities in INMED's five-state (North Dakota, South Dakota, Nebraska, Wyoming and Montana) service area. To orient junior and senior high school students to medical careers, INMED developed a summer institute program that provides 5 weeks of academic concentration in the sciences and mathematics and encourages participating students to structure their high school curricula to include the type of academic background required for admission into premedical university programs. The primary INMED effort is the coordination of a premedical and medical school program at the University of North Dakota under which American Indian applicants are pre-screened for their awareness of Indian problems and their potential for serving Indians on the reservations or in rural areas. The medical school at the University of North Dakota has designated five positions in the freshman class for American Indian students from INMED.[5]

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[5] Qualified American Indian students from INMED have also been accepted at other medical schools, and some have entered other health professions.

The establishment of a comprehensive precollege and premedical school program could take the form of expanding INMED or of starting other programs similar to INMED. However, although programs similar to INMED will probably lead to a larger and more qualified pool of American Indian applicants, the intense competition for all medical school positions remains a barrier. Without reserved positions or an American Indian medical school, many graduates of such programs will not get into medical school. Also of importance, it would be a very long time before such programs could alleviate either the health care delivery or the health career needs of the American Indians. Thus, INMED-type efforts aimed at grade and high school students are appropriate, but only as a secondary consideration.

EXPANSION OF SCHOLARSHIP PROGRAMS FOR AMERICAN INDIANS

Scholarships for American Indian students provide the economic opportunity and incentive to pursue health professional careers. As a result, expanding scholarship programs for American Indians need be considered only to the extent that financial barriers prevent qualified students from pursuing higher education in the health professions.

By passing the Indian Health Care Improvement Act, Congress acknowledged the need for a scholarship program for American Indians. Title I of the Act outlines a Health Professions Scholarship Program that would appropriate sums to provide scholarships to educate "physicians, osteopaths, dentists, veterinarians, nurses, optometrists, podiatrists, pharmacists, public health personnel, and allied health professionals to provide services to Indians." However, the program is still unfunded and cannot as yet be evaluated.

One approach that an expanded scholarship program might take is to require American Indian recipients to provide, in return for the scholarship, health service to American Indians through either IHS or a private practice serving American Indians. To ensure that the objective of eliminating IHS manpower shortages would not be sacrificed, such a program should not include provisions that allow the grant recipients to pay back grant funds instead of fulfilling their service obligations.

SUMMARY OF THE IMPACT OF THE FOUR PROGRAMS FOR ADDRESSING THE NEEDS OF THE AMERICAN INDIANS

	Expected Impact		
Program	Health Care Delivery	Health Career Opportunities	Self-Determination
Establishment of a medical school for American Indians	Very significant, beginning in about 9 to 10 years	Very significant, beginning in about 3 years	Very significant
Provision of spaces for American Indians at existing medical schools	Minor, beginning in about 7 years	Minor, beginning in about one year	Minor
Establishment of comprehensive precollege and premedical school programs for American Indians	Significant, beginning in about 9 to 10 years	Significant, beginning in about 5 years	Significant
Expansion of scholarship programs for American Indians	Minor, beginning in about 7 years	Minor, beginning in about one year	Minor

EXHIBIT IV-1

Because the financing of American Indian medical students is not a primary barrier to meeting American Indian health career needs, an expanded scholarship program would have only a minor impact on the number of American Indian physicians produced.[6]

The four programs outlined in this chapter are, again, part of a comprehensive approach for improving health care delivery, health career opportunities, and self-determination of American Indian peoples. Exhibit IV-1 summarizes the expected impact from each of the four programs.

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[6] However, were such a program to be broadened to include all the health professions, its impact on the other health professions' responsiveness to American Indian needs would be meaningful.

V - ASSESSMENT OF THE FEASIBILITY OF ESTABLISHING AN AMERICAN INDIAN MEDICAL SCHOOL

This chapter assesses the feasibility of establishing an American Indian medical school. It is divided into 3 major sections: an overview of the issues; analyses of governance and administration, faculty, student body, facilities, operating costs, sources of financing and locational issues; and a summary of the feasibility of establishing an American Indian medical school.

A - OVERVIEW

There are 117 medical schools in the United States, all of which are either fully accredited or, for schools that are still being developed, under provisional accreditation. Although there is a wide diversity in the size, purpose and general makeup of these medical schools, most of the schools have a number of factors in common.

- The basic unit is the medical school itself, offering the initial 4 years of training (in basic and clinical science) leading to an M. D. degree.

- To provide the appropriate educational environment, the medical school must be a part of or affiliate with an existing university structure. To the extent possible, it is also desirable for the medical school to affiliate with other health professional schools such as schools of nursing, dentistry, optometry, etc.

- To provide the appropriate teaching environment, the medical school must build or affiliate with a teaching hospital.

- To be accredited by LCME, the school must also offer graduate education (i. e., residencies) in all major, required undergraduate clinical courses.

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The required relationships between the medical school and other organizations are shown in Exhibit V-1.

Because the purpose of the study is to identify the broad issues and obstacles relating to feasibility, the following assessment of the feasibility of establishing an American Indian medical school is a study of a concept, rather than of specific sites or facilities. By implication, if it appears that all of the obstacles can be overcome, then the project may be designated as feasible.[1]

The remainder of this chapter assesses the feasibility of an American Indian medical school in terms of the following areas:

- The types of governance and administrative structures that could fit the needs of such a medical school, and that incorporate the need for American Indian self-determination and the requirements of the medical school accrediting body (LCME)
- The size and quality of faculty needed and the available supply of faculty
- Student issues, including class size and the availability of a qualified and interested pool of students
- The major facilities requirements for a medical school
- The per student and total operating costs involved in developing and subsequently operating a medical school
- The sources of financing for a new medical school
- The location requirements for a medical school.

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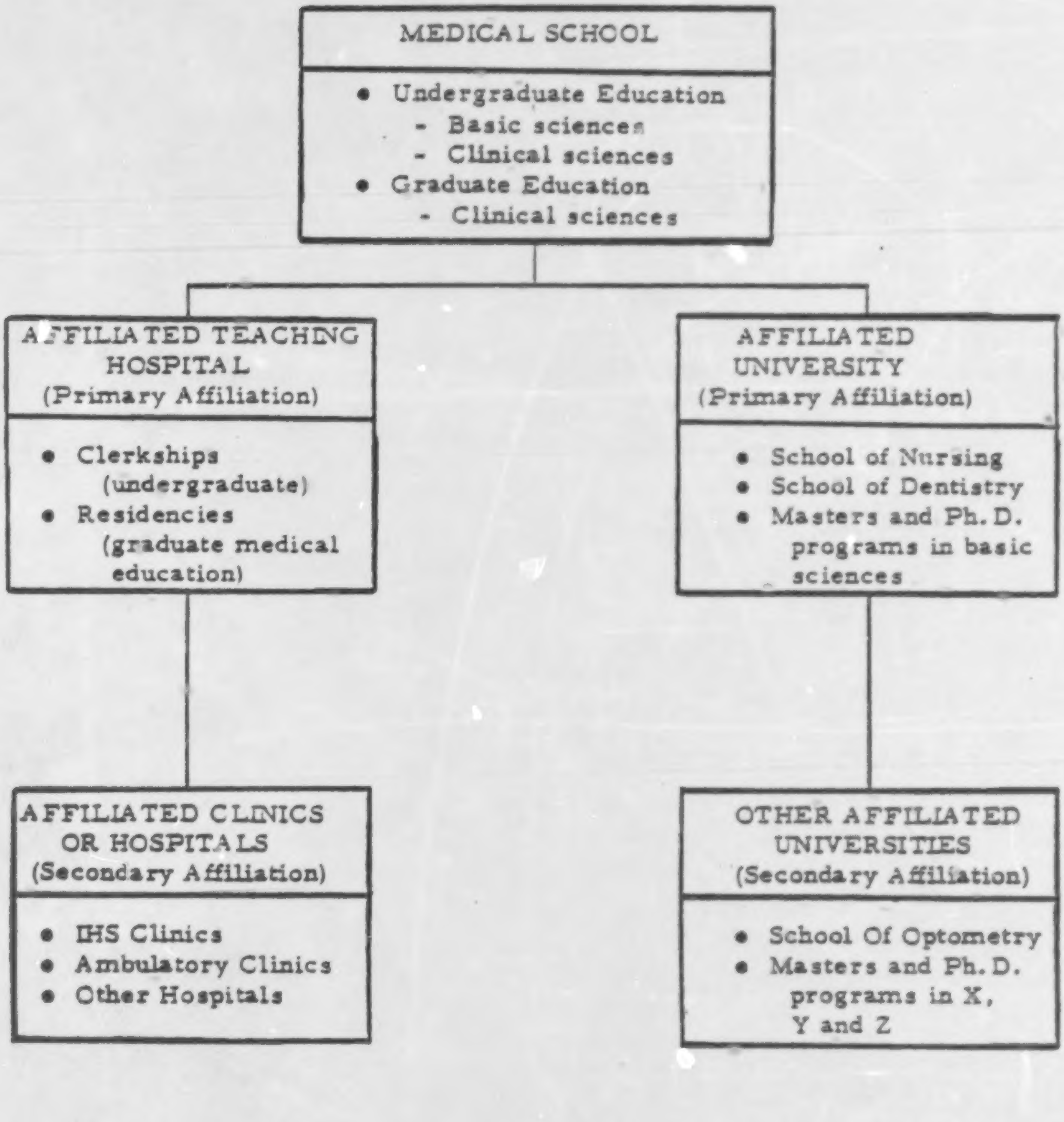
[1] A more detailed assessment, involving such issues as specific types of faculty needed and square footage requirements, is not intended at this point. Such an assessment cannot be made until the goals of the school, its curriculum and other factors have been developed.

EXHIBIT V-1

REQUIRED RELATIONSHIPS BETWEEN THE MEDICAL SCHOOL AND OTHER ORGANIZATIONS


MEDICAL SCHOOL
• Undergraduate Education
- Basic sciences
- Clinical sciences
• Graduate Education
- Clinical sciences
AFFILIATED TEACHING HOSPITAL (Primary Affiliation)
• Clerkships (undergraduate)
• Residencies (graduate medical education)
AFFILIATED UNIVERSITY (Primary Affiliation)
• School of Nursing
• School of Dentistry
• Masters and Ph. D. programs in basic sciences
AFFILIATED CLINICS OR HOSPITALS (Secondary Affiliation)
• IHS Clinics
• Ambulatory Clinics
• Other Hospitals
OTHER AFFILIATED UNIVERSITIES (Secondary Affiliation)
• School Of Optometry
• Masters and Ph. D. programs in X, Y and Z

B - GOVERNANCE AND ADMINISTRATION

This section discusses the governance and administration of an American Indian medical school.

GENERAL GUIDELINES

The primary factors to consider in formulating the governance and administration of a new medical school are the self-determination needs of American Indians and the accreditation requirements imposed by LCME.

A Formal Affiliation With An Existing University Will Need To Be Established

To meet LCME accreditation criteria, the medical school will have to affiliate with an accredited university that complements the medical school academically. At the same time, this affiliation should take the form of a free-standing governance structure so as to ensure that the medical school has a separate governance mechanism. The board of trustees of the medical school would then be responsible for the direction of the medical school's policies and plans. It would also determine appropriate hiring and promotional policies for faculty and would appoint the medical school's officers and faculty members.[2]

The affiliation approach contrasts favorably with other governance options. As an example, if the medical school were to become a part of (rather than affiliating with) an existing university, the opportunity for self-governance would be jeopardized. Specifically, the medical school would become another division of the university, comparable in standing to a law school or a business school, and the medical school would then be governed by the university's own board of trustees.

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[2] According to LCME guidelines, the board should be made up of "public spirited men and women having no financial interest in the operation of the school or its associated hospitals." In addition, those who provide funds for developing the new medical school should not serve on, or attempt to influence selection of, the board.

The American Indian Community Should Control The Medical School's Board Of Trustees

To meet the need for American Indian self-determination, the governance mechanism should permit American Indian control of the medical school's board of trustees. In turn, this control would extend to all policies of the medical school, including student admissions and faculty appointments.

The achievement of this objective is likely to require that the university delegate its formal authority over the medical school to an advisory board that would then serve as the medical school's board of trustees; this advisory board would have pan-Indian representation. To ensure self-determination the medical school should also be established as a private. rather than a public, school. This would provide American Indians with the opportunity to develop a board of trustees without domination by the state and/or the Federal Government. Implicit in the concept of pan-Indian governance is that the school would have policies (such as for admissions) that have a pan-Indian orientation.

A Major Relationship Will Need To Be Developed With At Least One Teaching Hospital

To meet undergraduate requirements for a full range of clinical clerkships, a medical school must develop a major relationship with at least one hospital (i.e., a teaching hospital). The required clerkships include family practice, medicine, surgery, obstetrics-gynecology, pediatrics and psychiatry. LCME has indicated that, for each of these clerkships, there must be an accredited graduate residency program (accredited by the Liaison Committee for Graduate Medical Education, LCGME) in the same specialty and at the same hospital.

The faculty teaching and supervising both the clerkships and the residencies will include physicians practicing at an associated hospital who are also part-time faculty for the school. However, to receive and maintain accreditation, the medical school must have control of the clinical faculty for issues involving the medical school program.

Graduate Medical Education Programs Will Need To Be Established

In conjunction with the teaching hospital affiliations, graduate medical education programs will need to be established. According to LCME, a residency program is needed "for the recruitment and retention of a competent clinical faculty." Also, it "adds a vital dimension to the educational requirement for the teaching of clinical medicine to medical students"[3] and complements the research interests of a qualified faculty. The residency programs these faculty supervise must continue to meet the requirements of LCGME and of the appropriate specialty boards. Like LCME, LCGME views faculty as crucial in determining accreditation, noting that "A well organized and well qualified staff is one of the most important requisites in a hospital assuming responsibility for residency training. It may well be the determining factor in the development and approval of a graduate training program."[4]

Certain Other Institutional Guidelines Will Need To Be Met

LCME also makes a number of additional recommendations on governance and administrative issues. These recommendations are summarized below.

- The new medical school must develop relationships with the associating hospitals that guarantee the medical school with academic and administrative control over the teaching faculty.
- For non-academic matters, the school should be organized along a committee format (for example, there should be committees for admission, promotion, curriculum, library, animal care, etc.).
- The dean should have an adequate staff.

CONCLUSION

The major obstacle to meeting the governance and administration requirements of an American Indian medical school is that the school will need to affiliate with an existing university. Specifically:

- A university must be found that is interested in establishing an affiliation relationship. Implicitly, the university is likely to expect to accrue significant financial and other benefits from an affiliation
- The number of universities available for affiliation consideration is limited to those that do not already have a medical school and (as discussed later in this chapter) are located near a large concentration of the American Indian population.

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[3] Liaison Committee on Graduate Medical Education, Directory of Approved Internships and Residencies, 333.

[4] Ibid.

If it is clear that the medical school is backed by the Federal Government, it may be possible to obtain the needed affiliation with a university. However, this can be determined only after formal contacts have been made with these universities and discussions have been conducted on the nature of the proposed school, the existence of definitive Federal support and the reasons (e.g., expansion of academic scope, increased prestige, special Federal Government inducements) why the university should be interested.

C - FACULTY

The ability to recruit and retain a competent and well-qualified faculty is of major importance to the success of an American Indian medical school.

GENERAL REQUIREMENTS

An American Indian medical school will require a faculty of sufficient size and quality to meet accreditation requirements and to provide the training of American Indian physicians at a level of competency equivalent to that of other medical schools. The general requirements for such a faculty are summarized below.

The Faculty Must Consist Of A Sufficient Number Of Qualified Members To Teach The Normal Range Of Required Courses

LCME does not define the exact size requirements for medical school faculty. However, according to its statistics, there are 0.70 full-time and 1.39 part-time faculty members for each student in United States medical schools.[5] Further, as shown in the table below for a selected group of smaller medical schools, the ratios for full-time faculty are even somewhat higher than the United States average, and the ratios for part-time faculty vary greatly.

Medical School	Number Of Medical Students	Number Of Faculty Members Per Student	
		Full-time	Part-time
A	123	0.73	0.92
B	90	0.82	4.52
C	136	0.80	2.51
U.S. average	493	0.70	1.39

Note: Schools A, B and C were selected randomly from among the medical schools having the smallest numbers of medical students.

Source: Association of American Medical Colleges.

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[5] In 1975-76, there were 56,244 medical students; 39,330 full-time faculty members; and 78,280 part-time or volunteer faculty members in the 117 United States medical schools.

This table indicates that an American Indian medical school with a class size of 128 (i.e., first-year class of 32) would require about 100 full-time faculty members (using a ratio of about 0.75 full-time faculty members per student) and at least another 100 part-time faculty members.

For the full-time faculty, it will be necessary to consider the specific staffing requirements for basic sciences and for clinical sciences. The basic science faculty (oriented toward the initial 2 years of medical school) will teach the major disciplines of biological and behavioral sciences: anatomy, biochemistry and physiology in the first year and pathology, pharmacology, microbiology, physical diagnosis and clinical laboratory procedures in the second year. In the clinical sciences (usually the third and fourth years of medical school), the faculty will teach and supervise clerkships in the major clinical disciplines of internal medicine, surgery, family and community medicine, pediatrics, obstetrics-gynecology and psychiatry. According to LCME data covering all United States medical schools, the split of full-time faculty positions is 27 per cent for the basic sciences and 73 per cent for the clinical sciences. As shown in the table below, these proportions tend to be higher in the basic sciences (and, correspondingly, lower on clinical sciences) for our sample of selected smaller schools.

Medical School	Number Of Medical Students	Percentage of Full-Time Faculty Members	
		In Basic Sciences	In Clinical Sciences
A	123	43	57
B	90	31	69
C	136	35	65
U.S. Average	493	27	73

Source: Association of American Medical Colleges.

Without developing a detailed curriculum design and staffing plan, it appears that a full-time faculty of about 30 faculty members in the basic sciences and 70 faculty members in the clinical sciences would be needed. Almost all of the part-time faculty would serve in the clinical sciences.

Other LCME requirements relevant to the adequacy of faculty staffing should also be considered. First, LCME requires that the faculty be made up of "competent and nationally qualified" basic scientists and clinicians. This issue is directed at the need for a quality faculty, staffed with an adequate complement of full-time faculty members that have prior teaching experience, have performed research and are board-certified in their specialty areas.

LCME also requires that the core faculty be full-time members of the medical school, not just part-time faculty members. This issue, which is directed at the establishment of a defined and stable complement of personnel, can be met through the size and composition factors discussed earlier.

The Faculty Must Be Capable Of Meeting The Medical School's Special Curricular Needs

The curriculum of the American Indian medical school should be oriented to the special requirements that pertain to the practice of medicine within the American Indian culture and religions. For example, such factors as the nature of interactions with traditional medicine practitioners will have to be considered. Also, the curriculum should be oriented to the training of family practice physicians, as dictated by the nature of the general practice demands placed on physicians serving on or near the reservation. This, in turn, points to the need for a faculty composition that emphasizes family practice, medicine, surgery, obstetrics/gynecology, pediatrics and psychiatry. Finally, as also required by LCME, it is assumed that the faculty would participate in curriculum development.

AVAILABILITY OF FACULTY

In 1975-76, the total full-time faculty positions filled in the United States medical schools was about 39,000. As shown in the following table, about 27 per cent of these were in the basic science departments (especially pathology, biochemistry, anatomy and physiology); the remaining 73 per cent were in the clinical science departments (particularly medicine, psychiatry, surgery and pediatrics).

DISTRIBUTION OF FULL-TIME FACULTY BY MAJOR ACADEMIC DEPARTMENT
1975 - 1976

Departments	Number Of Faculty Members	Departments	Number Of Faculty Members
	BASIC SCIENCES		
Pathology	2,510	Microbiology	1,367
Anatomy	1,729	Pharmacology	1,199
Biochemistry	1,474	Other (biophysics, biometry, genetics, molecular biology, etc)	977
Physiology	1,472		
		TOTAL	10,728

(Table cont'd on next page)

(Table cont'd from previous page)

TOTAL	10,728

CLINICAL SCIENCES

Medicine	7,317	Neurology	1,025
Psychiatry	3,925	Family medicine	740
Pediatrics	3,175	Ophthalmology	588
Surgery	2,772	Physical medicine and rehabilitation	538
Radiology	2,388	Otolaryngology	478
Anesthesiology	1,506	Orthopedics	448
Obstetrics-gynecology	1,460	Dermatology	278
Public health and preventive medicine	1,061	Urology	245
		TOTAL	28,602
		GRAND TOTAL	39,330

Source: *Journal of the American Medical Association,* December 27, 1976; 2957.

The number of "budgeted but unfilled faculty positions" is an inverse indicator of the supply from which faculty for the American Indian medical school might be drawn. For the 1975-76 school year, 5.9 per cent of all basic science and clinical science positions were unfilled. By department, these rates varied from a low of 4.0 per cent in psychiatry to a high of 16.6 per cent in family medicine.

At the same time, 14 American Indians (10 persons with M.D. degrees, three with Ph.D. degrees and one with a public health and preventive medicine degree, as shown in the following table) are currently serving as faculty members in United States medical schools.

Department[a]	M.D.	Ph.D.	Other	Total
Pathology	1	1	---	2
Medicine	1	---	---	1
Neurology	1	---	---	1
Obstetrics-gynecology	2	---	---	2
Physical medicine	1	---	---	1
Public health and preventive medicine	---	1	1	2
Radiology	---	1	---	1
Surgery	2	---	---	2
Family practice	1	---	---	1
Administration	1	---	---	1
Total	10	3	1	14

[a] Departments in which no American Indian faculty is shown are anatomy, biochemistry, biophysics, genetics, microbiology, pharmacology, physiology, biometry, anesthesiology, dermatology, ophthalmology orthopedic surgery, otolaryngology, pediatrics, psychiatry, educational resources and medical education, veterinary science, library and allied health.

Source: U. S. Department of Health, Education and Welfare, *Participation of Women and Minorities on U. S. Medical School Faculties* (March 1976).

CONCLUSION

Faculty requirements do not appear to be an insurmoutable barrier to the establishment of an American Indian medical school. A major point favoring feasibility centers on the existing supply of physicians. In particular, there is likely to be a nationwide pool of doctors of both sufficient size and quality to provide a core of about 30 full-time faculty members for the basic sciences and about 70 full-time faculty members for the clinical sciences.[6] In addition, national vacancy rates for medical school faculty are low enough to indicate that positions at a new medical school would be filled.

However, in order to attract the desired faculty, two requirements should be noted. First, a clear expression of long-term Federal support (in order to ensure stability) will be needed to attract quality faculty. Second, it will probably be necessary to locate the school near an urban area in order to attract the core faculty (and their families) for the basic sciences and third year programs. and to provide for a sufficient pool of volunteer faculty.

As a separate issue, it is anticipated that faculty would need to undergo a comprehensive orientation program on the American Indian culture. This program would provide them with background on the relationship between the school's curriculum and the American Indian culture. One way to eliminate the need for acculturation would be to have an American Indian faculty. At this time, however, the supply of American Indian faculty members could, at best, fill only a small proportion of the faculty requirements of a new school. Over time, this problem may be ameliorated as new American Indian physicians are graduated from the school.

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[6] As discussed earlier, the number of full-time faculty needed was based both on national standards and on a sample of selected schools.

D - STUDENT BODY

The ability to obtain a well-qualified student body capable of being trained as physicians is of major importance to the success of an American Indian medical school.

GENERAL REQUIREMENTS

The student body of an American Indian medical school must be of sufficient size and capabilities to meet accreditation requirements, to qualify for Federal start-up assistance and to meet the rigorous training that is part of a medical school program.

Accreditation Guidelines Do Not Specify A Minimum Requirement For First-Year Class Size

LCME does not specify the number of students a new medical school should have, either for its first class or for subsequent classes. However, as part of the accreditation process, LCME may determine the optimum number of students that can be admitted for each class, based on:

- Academic resources (including the number and variety of faculty and other graduate medical education programs)
- Physical resources (including the number and size of classrooms, laboratories, faculty offices and laboratory space)
- Financial resources
- Availability of qualified students
- Availability of clinical resources sufficiently under the control of the faculty (including the breadth and quality of bedside and ambulatory clinical teaching)
- Responsibility for research, continuing education and patient care.[7]

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[7] Liaison Committee on Medical Education, Accreditation of Schools of Medicine: Policy Documents and Guidelines.

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By way of comparison, the 1976-77 first-year classes at other medical schools ranged from a low of 40 at the Mayo Medical School to a high of 349 at the University of Illinois, and the average first-year class for the 112 schools surveyed was 136 students.[8] Thirteen schools had first-year class sizes in the 50-to-70 range.[9]

To Receive Federal Start-Up Assistance, The First Entering Class Should Have At Least 24 Students

It is almost certain that an American Indian medical school will require a significant level of start-up assistance from the Federal Government. Under existing guidelines, a new medical school must enroll at least 24 students in its first year of operation to qualify for this assistance.

There Must Be A Sufficient Pool Of Qualified American Indian Students To Fill Each Of The Entering Classes

A review of this issue requires a determination of the number of positions in the entering class that will be filled by American Indians and the availability of a pool of qualified American Indians[10] to fill these positions.

The number of American Indians admitted in each entering class can be determined only after a policy relating to the admittance of non-Indians is established. It is however, anticipated that American Indians will comprise at least 75 per cent (and possibly 100 per cent) of the class. An entering class of 24 students would require the admittance of 18 to 24 qualified American Indian students; similarly, an entering class of 32 would translate into a needed pool of 24 to 32 qualified American Indian students. Given the need for 18 to 32 qualified American Indian students, the question then becomes whether a pool of this size is available.

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[8] Journal of the American Medical Association, 236:26 (December 27, 1976).

[9] These schools were Mayo (40), the Texas Tech University School of Medicine (44), the State University of New York at Stony Brook (47), Eastern Virginia Medical School (49), the University of Missouri School of Medicine at Kansas City (61), the Brown University Program in Medical Science (62), the University of South Dakota (65), University of Hawaii School of Medicine (66), University of Texas Medical School at Houston (67), University of South Alabama College of Medicine (67), Dartmouth Medical School (68), University of North Dakota School of Medicine (68), and Southern Illinois University School of Medicine (70).

[10] "Qualified" refers to the ability to meet medical school admissions requirements.

Initially, the pool of American Indians would basically consist of those applicants who select the American Indian medical school as their first choice as well as those who have not been selected by other medical schools.[11] Although related data are limited, the high average level of MCAT scores for the 75 American Indian applicants denied admission in 1975-76 does indicate that a pool of this magnitude exists. As discussed in Chapter III, the average MCAT scores for these applicants was equivalent to the average scores of other underrepresented minorities who were accepted to medical schools. Consequently, it is a fair assumption that slightly more than half (i.e., 38 to 40) of these 75 American Indian applicants had scores equal to or above the average of the other underrepresented minority applicants who were accepted into medical school last year.

CONCLUSION

It appears that there is an annual pool of some 35 to 40 additional American Indian students capable of completing a medical program.[12] A class of this size would meet the size requirements associated with accreditation. However, to raise the qualifications of this pool, it would probably be necessary to establish educational enrichment programs, and the larger the size of the class, the more important these programs become.

Also, discussions indicate that most of the current medical school applicants, who would probably comprise the bulk of the first-year positions in an American Indian medical school (especially if positions are awarded based strictly on qualifications), are urban Indians. As a consequence, the main thrust of premedical educational preparation will need to be aimed at potential medical students residing in reservation and rural areas.

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[11] It should be noted that taking American Indian applicants who have already been accepted to other medical schools will not increase the total number of American Indian students in medical school.

[12] Discussions with American Indian students enrolled in medical schools indicated that there would be a high level of interest by students in attending an American Indian medical school.

E - FACILITIES -

This section discusses the types of facilities that would be required for an American Indian medical school.

GENERAL REQUIREMENTS

The general requirements for medical school facilities are discussed in terms of minimum needs and projected cost.

Medical Schools Require A Unique Set Of Facilities

In particular, the physical plant should make provision for:

- Educational facilities, including offices and space for the basic science and clinical science departments, teaching and study areas, laboratories and a library
- Research facilities (including animal care facilities) for the basic and clinical science departments
- Administrative facilities, including offices for the dean and support staff; business offices; and space for purchasing, building operations and storage.

The specific size and cost of these facilities cannot be defined in this study. To estimate them would require a detailed determination of the nature of the curriculum, the site of the school, the availability of existing facilities that could undergo minor renovation and the need for construction of new facilities. Even with the comparatively small size of the American Indian medical school (i.e., 32 students per class), discussions have indicated that construction of an entire medical school facility would probably require between $10 and $15 million of capital expenditures.

Capital Construction Expenditures For A Basic Science Facility Is Likely To Be Required In The Near Term

It is likely that some capital construction will be required for a basic science facility because the associated space needs cannot usually be met in the long-term by leasing vacant space or sharing existing university facilities. Discussions have indicated that construction of a basic science facility, with a library and animal care facility, would cost at least $6 million. However, as noted earlier, the plan for a physical plant cannot be developed in detail until the educational goals, the curriculum and location are determined and alternative sites are surveyed.

Existing IHS Facilities May Be Used For Much Of The Clinical Training In The Medical School Program

While a core facility will need to be established, the medical school may use a variety of other types of health facilities as part of the clinical science program. Specifically, accredited IHS facilities could be used and, at the same time, provide a clinical setting for student involvement in the health care problems of American Indian patients.[13]

CONCLUSION

Although detailed requirements will need to be defined at a later time, it is likely that a major construction project for a basic science facility will be needed. The feasibility of constructing such a facility, and others, is largely contingent on whether the Federal Government is willing to finance the construction activities, which may range from $6 million to $15 million.

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[13] During the third and fourth years, a student may study at any IHS hospital or clinic for up to 90 days, regardless of its accreditation status. They may also study at JCAH accredited facilities for an unlimited period, given approval by the medical school faculty.

F - OPERATING COSTS

The operating costs associated with the development and operation of an American Indian medical school are discussed in this section.

GENERAL GUIDELINES

The operating costs of an American Indian medical school may be reviewed in terms of two specific periods:

- The "development period," from authorization of the school to completion of the first year of instruction[14]
- The "fully operational period," at which point the 4-year program is in operation and the maximum level of enrollment (i.e., 128 students) has been achieved.

The level of costs involved in each of these periods is summarized below.

The Operating Cost For The "Development Period" Is Estimated At $2.7 Million For A Class Of 32 Students[15]

This development period involves two separate components. First, for the time-frame from authorization of the school to enrollment of the first class, an estimated $900,000 will be needed. Using 1970 data on six new 4-year medical schools, it was found that the average expenditure over this period was $1,099,000 for the average first-year class of 69 students. This amounted to an average cost per first-year student of about $16,000.[16] Although all data are expressed in 1970 dollars, comparable costs in 1977 were about $28,700 per student (or $918,400 for a class of 32 students).[17]

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[14] As set forth in "New Resources For Medical Education: Start-Up Expenditures in 22 New U.S. Medical Schools," Journal Of Medical Education, 47 (September 1972). This segment of the study includes data from the University of New Mexico, the University of Arizona, Pennsylvania State University, the University of Texas at San Antonio, the University of California at Davis, the Medical College of Ohio at Toledo and Louisiana State University at Shreveport. Data on several expense items were unavailable for one of these schools.

[15] Ibid.

[16] If sponsored fund expenses are excluded, the average operating cost per student was $13,000.

[17] This figure uses a compounded annual rate of increase of 8 per cent, as calculated for the decade in the Journal of American Medical Education 236:26 (December 27, 1976).

Second, for the period from enrollment of the first class through completion of the first year, an estimated $1.8 million will be needed. In the survey cited above, first-year costs were not identified separately by type of school (i.e., 2-year basic science, 4-year medical, 4-year medical with health science complex). However, for the total group of schools surveyed, the average first-year operating cost was $2,396,000, or $33,000 per student. Using the per student cost and adjusting for inflation since 1970, the average cost per student for the first year of operation is $56,600 (or $1,810,000 for a class of 32 students).

The Annual Operating Cost For The "Fully Operational Period" Is Estimated At $7 Million For A Total Enrollment Of 128 Students

The operating costs for fully developed medical schools vary across a broad spectrum, with some of the important determinants being the objectives of the school, the level of research, the type and amount of patient care and the number of other programs offered in cases where the school is part of a health science complex. However, some general parameters may be obtained by reviewing data on existing medical schools.

Four medical schools were selected for a cost analysis. Because these schools were randomly picked from the ten smallest medical schools in the United States, expenses should be comparable to those of an American Indian medical school. Based on this analysis, it was found that, in 1975-76, the cost per student at these four schools ranged from $35,700 to $67,400, as shown in Exhibit V-2, with the primary differences associated with the levels of sponsored programs.

At these four schools, the average cost per student was $50,625, equivalent to $54,675 at 1977 levels.[18] For a school with 128 students, this translates to an annual operating cost of $7.0 million. The total cost for these four schools ranged between $6.3 million and $11.3 million.[19]

CONCLUSION

To determine the feasibility of raising sufficient funding, the initial start-up costs and ongoing operating costs need to be established.

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[18] This also assumes a conservative 8.0 per cent annual rate of increase as used in footnote 17, even though the prior year's rate of increase was 14.3 per cent.

[19] Similar data are available from a 1974-75 survey of 105 medical schools. For this group, the annual amount of support for the medical schools ranged from a low of $5.0 million to a high of $89.0 million, with an average level of $28.6 million. Accordingly, the nationwide average per student was about $60,300 (equivalent to about $77,500 at 1977 levels). Journal of the American Medical Association 236:26 (December 27, 1976).

EXHIBIT V-2

COMPARISON OF MEDICAL SCHOOL OPERATING COSTS

Expenditure Category	Cost Per Student For Each School (In Thousands)			
	A	B	C	D
Instruction and departmental research	$22.3	$23.4	$23.5	$10.5
Sponsored research	4.6	3.1	19.8	4.2
Sponsored teaching and training	1.7	19.7	5.4	9.4
Sponsored service programs	0.5	0.6	5.4	.7
Administration and general	9.1	7.8	8.1	10.1
Operations and maintenance	1.8	2.0	4.2	-
Libraries	2.2	0.6	1.0	.8
Total	$42.2	$57.2	$67.4	$35.7

Source: Association of American Medical Colleges.

As the analysis points out, the ongoing financial commitment for operating a medical school is substantial, and the costs have been rising rapidly. Based on the experience cited, it appears that an American Indian medical school would require about $18 million in operating funds over the initial 5-year period. Assuming the first class would enter in September 1980, the following schedule is applicable:

Period	Cumulative Total Students Enrolled	Estimated Operating Cost (In Millions)
1979-80	0	$ .9
1980-81	32	1.8
1981-82	64	3.5
1982-83	96	5.2
1983-84	128	7.0
Total		$18.4

Finally, it should be noted that these costs, which are expressed in terms of 1977 dollars, are subject to future cost inflation.

G - SOURCES OF FINANCING

One of the critical issues associated with an assessment of medical school feasibility is a review of the available sources of funding. This section examines general requirements, the availability of funding and the associated feasibility.

GENERAL REQUIREMENTS

It is necessary to ensure, at the outset, that an adequate level of funding will be available for the medical school. As outlined below, this involves ensuring the receipt of a sufficient level of funds over a period of years.

The Medical School Must Demonstrate Sufficient Funding To Cover At Least A 5-Year Period

It is estimated that the funding requirements for an American Indian medical school will increase from $900,000 in 1979-80 to $7 million in 1983-84 (expressed in 1977 dollars). As a result, a total of about $18.4 million is required over this period, as well as at least $6 million in capital funds. LCME requires a projection of the sources of funds over this 5-year period as part of the accreditation process. In particular, this projection must include a statement of firm commitment from the various funding sources regarding the scope and timing of their financial assistance.

The School Should Receive Substantial Funding From Non-Federal Sources

LCME is particularly hesitant about having the Federal Government fund a new medical school, in part due to their recent experience with a new military medical school where funding has been turned on and off. LCME stressed that a Federally-funded medical school would not be accredited unless there is guaranteed funding over a period of years.

AVAILABILITY OF FUNDS

Four primary funding sources could be considered for financing the developmental and ongoing costs of an American Indian medical school, including:

- Federal government funding
- State, county or city government funding from the jurisdictions where the school is located
- Private support from foundations or corporations
- Self-generated income earned by the medical school through tuition charges, medical service plans and the provision of college services.

The Federal Government Is A Potential Funding Source

Federal Government support is available in three primary areas:[20]

- Development grants under the Health Professions Start-Up Assistance Grant Program
- Ongoing assistance under the Federal Capitation Grants Program
- Restricted contracts and grants for research and teaching.

The Health Professions Start-Up Assistance Grant Program. This program, which resulted from the enactment of the Comprehensive Health Manpower Training Act of 1971, allows a medical school to receive funding for a period of up to 4 years. Using an established formula, the amount of the grant may not exceed the following levels:

- In the year preceding the first year of student enrollment, $10,000 for each full-time student planned for the first entering class
- In the first year of enrollment, $7,500 for each full-time student in the school
- In the second year of enrollment, $5,000 for each full-time student in the school
- In the third year of enrollment, $2,500 for each full-time student in the school.[21]

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[20] This analysis is restricted to Federal sources providing direct medical school support. It does not attempt to evaluate the feasibility of diverting funds from other American Indian education or health areas, such as BIA funding for higher education under Section 638.

[21] U. S. Department of Health, Education and Welfare, Health Professions Start-Up Assistance Grant Program.

Assuming that an American Indian medical school would have an entering class of 32 students for each of the first 3 years of operation, the total amount of funds provided through Federal start-up assistance could range up to $1,110,000. If the first class is admitted in September 1980, the following annual amounts would be applicable:

Year Beginning September	Maximum Level Of Start-Up Assistance
1979	$320,000
1980	240,000
1981	320,000
1982	230,000
1983	0

These start-up funds may be used only to cover operating costs and, if certain conditions are met, for alterations and renovations.[22] To qualify for start-up assistance funding under the Federal grant programs, the medical school must have received reasonable assurance from LCME that the school will be accredited if it proceeds according to their developmental plans.

The Federal Capitation Grants Program. This program allows a medical school to receive grant assistance over an unlimited number of years. In particular, Bureau of Health Manpower regulations state that the "purpose of the capitation grant program is to provide a general support base for the educational programs of the schools...(because of this) these funds may be used for regular operating costs, including the costs of research and patient care related to the educational program of the school."[23]

As of fiscal year 1979 the capitation grant program provides authorization for $2,050 for each medical school student. Funds actually appropriated under this program have, however, been substantially less in the past.[24]

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[22] Bureau of Health Manpower regulations specifically prohibit the use of these funds to: operate teaching hospitals (although funds may be used to pay salaries of clinical teaching staff); provide financial assistance to students, interns and residents; or construct buildings, including additions or extension.

[23] Again, however, the funds may not be used for construction or for student financial aid.

[24] Due to the trend toward student support rather than school support of medical school education, some medical educators feel that capitation grants may be phased out in the near future.

Assuming again that an American Indian medical school would have an entering class of 32 students for each of the first 4 years, the amount of funds provided through capitation grants would be increased from $65,600 in the first year to $262,400 in the fourth and succeeding years of school operation. With the first class beginning in September 1980, the following annual amounts would be applicable:

Year Beginning September	Maximum Level Of Annual Federal Operating Assistance
1980	$ 65,600
1981	131,200
1982	196,800
1983 and succeeding years	262,400

The total level of potential direct Federal assistance over the period 197[illegible]-1984 is thus estimated at $1.8 million (or 10 per cent of the school's total support requirements).

Research and teaching contracts and grants. Although Federal research, teaching contracts and grants account for about 40 per cent of total medical school funding nationwide, the American Indian medical school would receive a significantly lower level unless special programs were initiated. In particular, a study of 22 new medical schools noted that "operational support from sponsored grants and contracts prior to the enrollment of students has been meager...(Fourteen of these schools received a median of $189,000 prior to establishment)...In contrast, established U. S. medical schools have become heavily dependent on funds from sponsored programs, especially in the maintenance of their clinical and research operations. In the face of the continuing unswerving conviction of medical educators that medical education best flourishes in a milieu in which research, education, and service are melded, funding the start-up costs of their research service, and graduate education programs has been a particularly vexatious problem for the new schools."[25] In support of this, one new medical school (on which we have detailed income and expense information) obtains only 15 per cent of its total funding from both Federal and other sources under restricted grant programs.

The Comprehensive Health Manpower Training Act of 1971 also provided funds for the construction of medical school facilities. However, this program was last funded in 1974, and it is unclear whether additional funding will be provided in the future.

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[25] Journal of the American Medical Association 236:26 (December 27, 1976).

State And Local Governments Are Potential Sources Of Limited Funding

Nationally, state and local governments provide almost 18 per cent of all funding for medical schools. However, since an American Indian medical school will have a nationwide orientation, it would probably be developed as a private school with broad Federal support rather than as a public school with close ties to any state. Although some level of state aid is possible even if the medical school is private, such aid is likely to be limited and subject to the variability of the annual appropriations process.

Support Might Also Be Obtained From Private Foundations Or Corporations

Funding from private foundations and corporations represents about 16 per cent of the total funding of all medical schools. The list of organizations currently participating in health education and delivery projects is quite broad, as shown in Exhibit V-3. Forty-three private foundations, having assets over $1 billion, together distribute over $10 million in health-related grants annually.

Again, it is not possible at this point to identify which (if any) of these organizations would be interested in providing financial support to an American Indian medical school.

The Medical School Would Generate Some Of Its Own Income

The primary sources of self-generated funds are student tuition fees, professional fees charged under medical service plans, income from college services, endowment and gift income and interest earned on investments. Nationally, these sources represent 23 per cent of all medical school support.

CONCLUSION

It appears that the financing of the American Indian medical school will depend strictly on the availability of funding from the Federal Government. The vehicle for such support could be either special appropriations or, a less desirable option, a reallocation of existing program funding for American Indian education. State and local appropriations and support from private foundations and corporations are likely to be limited. Also, because the school is new, the sources for research and teaching funds will be limited and difficult to obtain.

Although the Federal Government is the only source that can ensure adequate medical school funding, a critical problem still exists in terms of the stability of this source of funding and LCME's accreditation requirements. As mentioned earlier, LCME has indicated that a medical school should have non-Federal funding to provide a buffer against the uncertainties of Federal appropriations. LCME has also emphasized the need for firmly committed funding over a 5-year period.

(Ranked By Grant Expenditures)

Foundation	Location	Assets	Grants				
			Expenditures	Number	High	Low	Year Ending
Kresge Foundation, The	Troy, Michigan	$ 657,953,209	$26,828,433	209	$1,250,000	$1,000	12/31/73
Johnson (The Robert Wood) Foundation	Princeton, New Jersey	1,301,947,544	20,074,991	124	4,000,000	1,500	12/31/73
Kellogg (W.K.) Foundation	Battle Creek, Michigan	577,327,679	20,091,757	273	1,175,000	2,000	8/31/73
Commonwealth Fund, The	New York, New York	110,884,251	12,038,550	101	150,000	1,000	6/30/74
Surdna Foundation Inc., The	New York, New York	115,924,712	5,895,000	62	800,000	2,000	6/30/72
Fairchild Foundations, Inc., The	Greenwich, Connecticut	36,143,660	3,599,483	42	1,700,000	500	12/31/72
Kaiser (The Henry J.) Family Foundation	Palo Alto, California	56,700,486	3,404,500	14	3,000,000	1,000	12/31/72
Dana (The Charles A.) Foundation, Inc.	Greenwich, Connecticut	88,698,473	2,591,550	30	450,000	1,000	12/31/72
Benedum (The Claude Worthington) Foundation	Pittsburgh, Pennsylvania	72,965,115	2,526,494	88	500,000	200	12/31/72
Merck Company Foundation, The	Rahway, New Jersey	2,242,327	1,772,101	366	n.a.	n.a.	12/31/72
New York Foundation	New York, New York	21,609,799	1,391,089	161	25,000	750	12/31/72
Macy (Joseph), Jr., Foundation	New York, New York	53,542,206	1,389,520	69	100,000	2,325	12/31/72
Pfeiffer (Gustavus and Louise) Research Foundation	New York, New York	11,418,478	1,360,548	34	500,000	2,500	12/31/72
Phillips Foundation, The	Minneapolis, Minnesota	29,499,882	1,150,495	198	279,000	25	12/31/72
Hearst Foundation, Inc., The	New York, New York	42,841,637	1,014,500	139	50,000	1,000	12/31/72
Johnson's Wax Fund, Inc., The	Racine, Wisconsin	470,000	888,000	350	n.a.	n.a.	6/30/72
Hyde (The Lillia Babbitt) Foundation	New York, New York	18,186,805	877,540	72	40,000	1,000	12/31/72
Warner-Lambert Charitable Foundation, The	Morris Plains, Delaware	2,027,808	859,846	334	70,000	25	12/31/72
Guggenheim (The Daniel and Florence) Foundation	New York, New York	9,493,021	651,297	13	157,000	800	3/31/73
Schwartz (David) Foundation, Inc.	North Bergen, New York	10,158,329	603,368	70	101,500	1,000	5/31/73
Stewart (Alexander and Margaret) Trust	Washington, D. C.	13,045,156	481,287	11	150,000	2,000	12/31/72
Educational Foundation of America, The	Encino, California	22,331,929	444,040	18	104,000	1,200	12/31/72
Schering Foundation, Inc.	Bloomfield, Delaware	9,431,292	442,614	33	50,000	1,000	12/31/72
Container Corporation of America Foundation	Chicago, Illinois	1,725,846	431,847	224	93,500	100	1/31/74
Bronfman (The Samuel) Foundation, Inc.	New York, New York	4,551,338	430,583	10	125,000	250	12/31/72
Strauss (The Levi) Foundation	San Francisco, California	3,136,025	391,847	252	36,225	15	12/31/72
Burroughs Wellcome Fund, The	Research Triangle Park, N.Y.	2,191,828	256,350	24	25,000	250	4/30/73
Pullman Inc. Foundation	Chicago, Illinois	1,284,975	238,751	201	31,675	25	12/31/72
Reynolds (The J. B.) Foundation	Kansas City, Missouri	6,530,016	237,550	19	50,000	50	12/31/72
Schwartz (Arnold) Fund for Education and Health Research	New York, New York	3,306,410	203,417	33	25,000	100	3/31/73
Fuller Foundation, Inc., The	Boston, Massachusetts	3,607,539	187,732	148	23,000	25	12/31/72
Ritter Foundation, Inc., The	New York, New York	2,679,518	165,268	99	12,270	10	11/30/72
Collins (Joseph) Foundation	New York, New York	3,797,084	159,600	155	2,500	500	6/30/72
Manning (The James Hilton) and Emma Austin Manning Foundation	New York, New York	3,408,199	151,500	12	35,000	1,500	7/31/72
Green (Allen P. and Josephine B.) Foundation	Mexico, Missouri	3,397,895	138,434	7	40,000	5,000	12/31/72
Klebera (Robert J.) Jr. and Helen C. Klebera Foundation	Kingville, Texas	5,679,211	97,450	11	30,000	100	12/31/72
Abbott Laboratories Fund	North Chicago, Illinois	1,457,720	88,250	32	10,000	500	12/31/72
Campbell Foundation	Memphis, Tennessee	1,144,663	82,400	25	16,500	1,000	12/31/72
Rogoff Foundation	Rowayton, Ohio	2,554,864	80,001	13	16,000	125	12/31/72
Chait (The Sara) Memorial Foundation, Inc.	New York, New York	2,974,443	78,747	4	29,000	3,247	12/31/72
Potts Memorial Foundation, The	Hudson, New York	1,677,916	71,490	9	20,404	5,350	12/31/72
Harris Foundation, The	St. Paul, Minnesota	2,523,521	69,315	129	25,000	25	12/31/72
Wolfson (Louis E.) Foundation	Boston, Massachusetts	1,251,023	31,518	27	24,695	8	12/31/72

rce: The Foundation Directory, Edition 5, 1975

H - LOCATION

A major task in analyzing the feasibility of developing a new medical school is determining possible site locations for the school. This section examines potential sites by the process of elimination. Various locations are evaluated against a given set of criteria, and sites meeting the greatest number of criteria are viewed as the most "feasible" sites.

GENERAL REQUIREMENTS

In evaluating feasible site locations, a set of four different criteria was developed and applied to specific locations. The criteria and sites selected are discussed below:

The Core Facility Should Be Located In An Area With A High Concentration Of American Indians

To ensure that the American Indian medical students are in the proximity of the American Indian communities, the core facility should be located in an area that has a high concentration of American Indians. As shown in the table below, some of the states with the highest concentrations of American Indians (according to the Bureau of the Census) are Oklahoma, Arizona, California and New Mexico.

State	Percentage of All American Indians Residing In The States
Oklahoma	11.9%
Arizona	11.6
California	11.0
New Mexico	8.8
Alaska	6.1
North Carolina	5.4
Washington	4.0
South Dakota	3.9
Montana	3.3
New York	3.4
Minnesota	2.8
Wisconsin	2.3
Texas	2.2
Michigan	2.0
All Other States	21.3
Total	100.0%

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The Core Facility Should Be Located In An Area That Has Approved Residencies In All Of The Undergraduate Clinical Clerkships

To provide the required undergraduate clerkships in the clinical sciences, approved residencies are needed in all of the primary care specialties (internal medicine, surgery, family medicine, obstetric-gynecology, pediatrics and psychiatry). Further, because of the difficulties and uncertainties in obtaining new residencies, the location is restricted to those areas that have ongoing programs.

Some of the areas known to have the full complement in each of these specialties are Phoenix, Arizona; Minneapolis, Minnesota; Albuquerque, New Mexico; and Oklahoma City, Oklahoma.

The Core Facility Should Be Located Near IHS Facilities Having JCAH Accreditation

To provide medical students with continuous exposure to American Indian patients, it will be necessary to use (as part of the clinical sciences program) IHS facilities that have JCAH accreditation. Also, to ensure program control, these IHS facilities should also be reasonably near the core facility of the medical school. The available IHS hospitals, by state and number of beds are shown below:

State	Number Of Beds
Alaska	397
Arizona	4,489
Minnesota	54
Montana	68
New Mexico	339
North Dakota	50
Oklahoma	144
South Dakota	112

As noted earlier, only Phoenix currently has residencies in an IHS facility.

The Core Facility Should Be In An Area That Offers A Substantial Supply Of Hospital Beds

One guideline for determining the number of hospital beds needed for clinical teaching purposes is to have four beds for every student in the clinical phase. Thus, with 64 students in the clinical phase, about 260 beds would be needed for teaching purposes. The areas that both have a substantial of hospital beds and are located within the states having accredited IHS facilities are listed in the following table:

Area	Total Number Of Hospital Beds
Phoenix, Arizona	1,937
Tucson, Arizona	1,354
Minneapolis/St. Paul, Minnesota	9,177
Albuquerque, New Mexico	1,009
Oklahoma City, Oklahoma	2,378

Although several of these areas contain existing medical schools that already use some of these beds for their own clinical teaching needs, a sufficient supply for a new medical school appears to be available. Based on the student-bed ratio noted earlier, it is estimated that the University of Arizona (at Tucson) medical school requires about 400 teaching beds; the University of Minnesota and Mayo medical schools, about 1,750 beds; the University of New Mexico medical school, about 450 beds; and the University of Oklahoma medical school, about 950 beds. The Phoenix area does not have a medical school.

CONCLUSION

Using the criteria outlined above, it appears that an American Indian medical school could be located in Phoenix, Arizona; Minneapolis/St. Paul, Minnesota; or Oklahoma City, Oklahoma. Other potential but less desirable sites include Tucson, Arizona (which lacks adequate graduate residencies) and Albuquerque, New Mexico (which lacks sufficient bed capacity).

In addition, all of these sites meet the "urban location" requirement discussed earlier as a factor in attracting a quality faculty.

I - SUMMARY

In the development of this study, several requirements were established as critical, from the American Indian viewpoint, to the feasibility of the development of an American Indian medical school. These requirements, which have been analyzed in the relevant section of this report, are summarized below.

- The school's governance structure should ensure pan-Indian governance.
- Admissions policies and criteria should ensure that equal and adequate opportunity is provided to all American Indians.
- The educational program should be aimed at ensuring an understanding of the American Indian culture.
- The school should meet LCME accreditation requirements.
- The students' living environment should be culturally acceptable and provide an interactive community.
- The school should be geographically accessible to a large number of American Indians.

These requirements do not pose substantial problems to the feasibility of the school. There are, however, a number of other obstacles that must be overcome. A brief summary of these obstacles and the means by which they might be overcome is provided below.

- Governance and administration. The primary obstacle is in finding an accredited university that is interested in a formal affiliation with an American Indian medical school and, at the same time, will allow the American Indian community to control the medical school's governance and administration. To ensure interest by a qualified university, it will probably be necessary for the Federal Government to provide strong backing, along with financial inducements to that university.

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- Faculty. The American Indian medical school must be able to attract a faculty of sufficient size and quality. This should be possible as long as the school is able to locate in a major urban center, and a clear expression of continued Federal support has been made.

- Student body. A sufficient pool of qualified American Indian applicants, who have the necessary level of interest, appears to be available.

- Facilities. Major construction requiring between $6 and $15 million will be needed, and this problem is likely to be resolved only through Federal financing.

- Operating Costs. About $18 million is estimated to be needed for the 1979-80 to 1983-84 periods, and, again, this is likely to necessitate significant funding by the Federal Government.

- Funding sources. The Federal Government will need to provide most of the funding support. As well, alternative sources, which will be more difficult to obtain, will be needed to ensure accreditation.

- Location. Phoenix, Minneapolis/St. Paul, and Oklahoma City are among the primary areas having the concentration of American Indian population, and approved residencies, accredited IHS facilities and number of hospitals beds needed.

In summary, the primary obstacles are (a) the need for a clear, long-term financial commitment to an American Indian medical school by the Federal Government, and (b) the establishment of a university affiliation. If these factors can be met, then the other obstacles can be overcome and the establishment of an American Indian medical school would appear to be feasible.